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ABSTRACT

The 1982 proceedings of the joint meeting of the Fourth Annual Kansas State University Rural and Small Schools Conference and the Kansas Community Education Association Conference contain texts of 33 papers with separate bibliographies, plus the conference agenda. Topics most discussed are curriculum development/planning, computers and microcomputers, recruiting and retaining teachers, and strategies for dealing with declining enrollments. Other papers deal with community development in small schools, basic skills centers, discrepancy assessment as a group management tool, testing, help for beginning teachers, creative teaching in a rural environment, the West Montana College model of teacher education for small schols, and a cost analysis process for small schools. Also covered are needs of small schools; characteristics and perceptions of rural teachers, administrators, and school board members; a federal perspective on excellence in education for rural America; aerospace education for students in small and rural schools; the effects of changing school finance on organizational characteristics; Kansas high school attendance policies; New Mexico rural school districts' strategies in special education; legal negligence and the community educator; an interrelated service delivery approach; mental rehearsal to improve instruction; a secondary reading program for rural schools; and rural science education. (MH)

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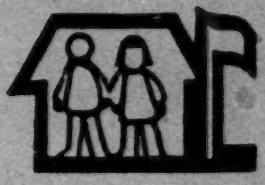
MOVING FORWARD IN TIMES OF ADVERSITY:

Proceedings of the Fourth Annual Rural and Small Schools Conference and the Kansas Community Education Association Conference

November 15-16, 1982



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MOVING FORWARD

IN TIMES OF ADVERSITY:

Proceedings of the Fourth Annual
Rural and Small Schools Conference
and the
Kansas Community Education Association
Conference

November 15-16, 1982

KANSAS STATE UNIVERSITY
Manhattan, Kansas

Thomas C. Armenoff
and
Jerry G. Horn
Editors

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FOREWORD

The proceedings from the joint meeting of the Fourth Annual KSU Rural and Small Schools Conference and the Kansas Community Education Association Conference have been compiled for your use and as a means of showing appreciation to the many presenters for their dedicated efforts. The theme of the 1982 conference, MOVING FORWARD IN TIMES OF ADVERSITY, was intended to reflect what is happening as well as pose a challenge to all of us. It has long been known that schools in rural areas are an integral part, if not the focal point, of the community. The integration of the interests of rural/small school education and advocates of community education reflect the program planners' appreciation for this fact and the support for even further cooperative endeavors.

The wide variety of presentations, as represented by the proceedings, demonstrates the complexity of rural communities. We heard descriptions of exciting and successful programs and practices. However, we also were presented with research findings and predictions of problems. Solutions to these problems can and will be found, but they require the best and most creative minds we have available. Concerns included curricular, financial, personnel, technological and logistical matters. If this conference has provided opportunities to store information and provide a forum of discussion of matters related to education in rural areas, it has fulfilled one of its most important purposes It is to the educators on the front line that this conference is dedicated, and it is a privilege for the Center for Rural Education and Small Schools, the Kansas Center for Community Education and the Kansas Community Education Association to have hosted the conference for you.

Jerry G. Horn
Associate Dean
College of Education
Kansas State University

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CURRICULUM DEVELOPMENT: A FUNCTION OF DESIGN AND LEADERSHIP

by

Douglas D. Christensen

The curriculum of today's American public schools seems a long way from its Greco-Roman roots. Some traditions and elements of our heritage, however, remain firmly embedded in current programs and practices. English[1] aptly describes the current state of curriculum in American schools as "a strangely pragmatic mixture of 'things' that have been washed ashore with the Pilgrims, fundamental Protestantism, industrialization, educational movements and reforms, waves of immigration, and most recently the backwash of the Space Age. . .a living museum of hodgepodge. . ."

Curriculum of American schools is "hodgepodge" and "museum-like" because of a history of sporadic and haphazard growth.[2] Curriculum has lacked valid theory and empiric data to guide its evolution. Therefore, instead of shedding unwanted and unneeded parts, curriculum growth was amoeba-like, absorbing more and more within its boundaries. Today's curriculum literally contains everything and excludes little. English[3] further describes current curriculum as a "sponge, soaking up everything. . ." In fact, some educators postulate that curriculum boundaries don't exist at all, or if they do, they are vague and porous and permit virtually everything to enter and be contained herein.

Curriculum in American schools "must be more than something that contains everything . . ."[4] Curriculum development has suffered from inertia, ineffectiveness, and complacency. Curriculum development has been, and still is, hindered by the state of its internal condition. At least three conditions are directly related to the general infant nature of curriculum development as a specialty area of professional practice. Each condition sufficiently hampers development of curriculum practices and together all three virtually block significant improvement in schools as institutions, improvement in quality of schools programs, and improvement in quality of results (student outcomes).

The following conditions are major reasons for the current state of curriculum development. If resolved, each condition is also key to advancement of curriculum development as professional practice.

1. There is lack of accurate conceptualization of and general consensus on the major constructs of curriculum development.
2. There is a lack of leadership among educators with abilities to conceptualize, develop, implement, monitor, and evaluate effective curriculum design.
3. There is lack of specification and differentiation in the roles of Superintendents of Schools (including associates) and building Principals (including associates) who must assume leadership roles.

Schools Need Curriculum and Leadership

American schools need mechanisms for making rational decisions about what schools are to do and about what is properly included as programs, services, and functions. American schools also need leadership if such mechanisms are to be designed, implemented, monitored and evaluated.

Curriculum leadership begins with conceptualization of basic concepts and fundamental constructs. Accurately defined, concepts and constructs provide foundations for building the professional practice of curriculum design.

Curriculum Defined

Curriculum derives from the Latin root "currere" or running.[5] Therefore, curriculum is a path, a means to somewhere else. Curriculum is a map showing a direction. Curriculum is best described as designs or blueprints.[6]

Formally, curriculum is the total planned program of schools. Curriculum is expressed in mission, purposes and goals. Curriculum may apply to mission, purposes and goals of entire organizations, or may apply to purposes and goals of individual programs, services or practices of organizations.

Stated another way, curriculum is a set of systematic intentions.[7] Curriculum states what is to happen in schools (in terms of learner outcomes).[8]

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1 Fenwick W. English, "What's Ahead in Curriculum," School Administrator, (American Association of School Administrators, unknown), p. 18.

2 Ibid, p. 34.

3 Ibid.

4 Ibid.

5 Fenwick W. English, "Curriculum Mapping, a presentation to Kansas Association for Supervision and Curriculum Development," (Topeka, Kansas, October, 1980).

6 David Pratt, Curriculum, Design and Development, (New York: Harcourt, Prace, and Jovanovich, Inc., 1980) p. 4, p. 9.

7 Ibid., p. 4.

8 English, op. cit., , (KASCD, 1980).

The function of curriculum is to form foundations upon which instructional programs are constructed. Curriculum also establishes boundaries determining which instructional programs are to be included and which are to be excluded.

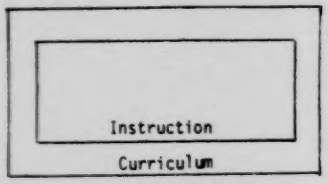

Figure 1

Curriculum - Instruction Interrelationship

Curriculum performs both enabling (foundation) functions and constraining (boundary) functions.

Instruction Defined

Instruction refers to all decisions related to operationalization of curriculum. Instruction includes, but is not necessarily limited to, subjects, courses, activities, policies, rules and regulations, schedules, budgets, services, personnel, and facilities.

Instruction represents the "how" of curriculum which represents "why" or "what for." Instruction translates curriculum into action.

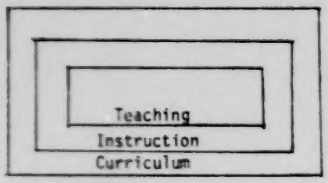

Figure 2

Like curriculum, instruction performs both enabling (foundation) functions and constraining (boundary) functions.

Teaching Defined

Teaching is the unique behaviors of individuals referred to as teachers. Teaching includes knowledge, attitudes and skills - both personal and professional - that teachers bring to classrooms to impact upon teacher-learner relationships.

Teaching is what teachers do. Teaching is defined in practice, i.e., teaching is what teachers know, say, do or feel.

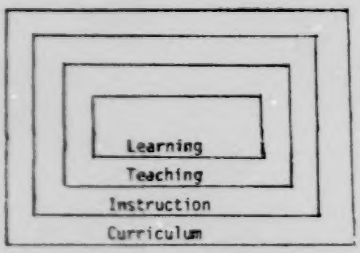

Figure 3

Like curriculum and instruction, teaching performs both enabling (foundation) functions and constraining (boundary) functions.

Learning Defined

Learning is the unique function of individuals referred to as learners. Learning is what students do in response to teaching. Learning is the intended result of curriculum.

Formally, learning represents changes in an individuals' behavior. Learning may occur as changes in levels (achievement) of what students know (content), feel (attitudes or feelings) or do (skills). These changes may be referred to as cognitive, affective, and psychomotor achievements, respectively.

Reality

Previous models depicted theoretical interrelationships among functions of curriculum, instruction, teaching and learning. The interrelationships exist differently in actual practice.

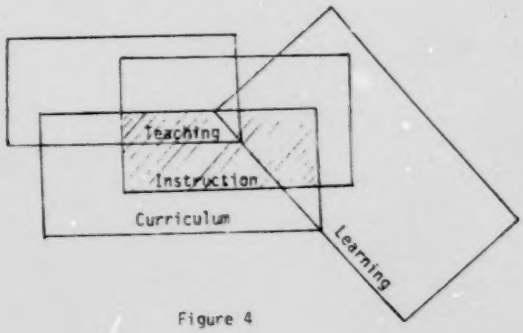

Figure 4

A more practical model of the interrelationships among functions of curriculum, instruction, teaching and learning.

Extensive empiric data is not required to determine that interrelationships among functions of curriculum, instruction, teaching and learning are not as integrated nor as sequential as indicated in the model in Figure 3. Each function is neither totally based (foundation) nor totally constrained (boundary) by preceding functions.

In practice, some phases of instructional programs rest soundly on foundations of curriculum and are likewise contained within its boundaries. However, there are also instructional programs, depending upon how curriculum is defined, that have no basis in curriculum and are not contained within its boundaries.

Similarly, some teaching in classrooms is provided for in prescribed instructional programs (curriculum guides). We also know that some teaching may not be supported nor constrained by either curriculum or the prescribed instructional program. Such teaching is assumed by teachers who are neither compelled to deviate from prescribed programs nor restrained from doing so.

An example may help clarify actual interrelationships among the functions of curriculum, instruction, teaching and learning.

Example: Teacher A, an Art teacher, lectures his class about general behavior in school assemblies emphasizing the virtues of self control and individual responsibility. Teacher A's lecture is appropriate as a response to incidents of student misbehavior. (Most school curriculum designs include either explicit or implicit statements about "good citizenship.") However, there is no instructional plan (curriculum guide) that directs a teacher of art to teach students about citizenship.

Hence, teaching about citizenship is not part of the planned program of instruction but permissible in the total activities of teachers because of the curriculum goal to produce "good citizens."

Some learning occurs because of the interacting support and constraint of curriculum, instructional programs and teaching practices.

However, we also know some students learn things in schools that are not part of the curriculum, not part of instructional plans and not results of efforts of teachers. We also know students learn things that may generally relate to the curriculum but they are learned totally outside the realm of schools.

Functions of Curriculum

In reality there will never be a pure interrelationship, e.g., both totally supporting (foundation) and totally constraining (boundary), among the sequential functions of curriculum, instruction, teaching and learning. However, current disparities and haphazard relationships can certainly be improved upon and, in fact, must be improved upon if schools are to be both efficient and effective in helping students to learn. It is imperative that mechanisms are devised and implemented to integrate relationships among curriculum, instruction, teaching and learning.

Default vs. Design

It is not a question of whether schools will have curriculum or not. Curriculum exists as it is practiced. Curriculum may be either expressed or implied.

Mission and purposes, i.e., curriculum, of schools are able to be determined a priori or by inference. A priori mission and purposes are those that are formal, explicit, announced in advance, and are clearly evident in practice. Mission and purposes can also be determined by inference. Trained observers are able to infer intentions and purposes from observed actions of individuals within organizations and from effects (responses) of those actions upon clients (students).

Inferred mission and purposes are almost always achieved by chance, if achieved at all. Inferred mission and purposes occur not by design but rather by default.

Schools have curriculum. It may occur because of design or because of default.

Design Functions of Curriculum

In addition to supporting (foundation) and constraining (boundary) functions, curriculum has educational and management functions.[9] The educational functions of curriculum are to define those skills, knowledge, and attitudes that are to result from a sequence of schooling, i.e., instruction. Well-defined curriculum identifies those things to be included[10] and those things to be categorically excluded, or not included because there exists no compelling reason to do so. Management functions of curriculum refer to the organization of resources necessary to accomplish educational purposes.[11]

As both educational plans and management plans, Pratt[12] states that sound curriculum design must include the following characteristics:

1. be written and formally organized,
2. identify plans for activities,
3. identify intentions, including
   - 3.1. what learnings students are to master,
   - 3.2. means of evaluation to be used to assess learning,
   - 3.3. criteria according to which students are admitted to programs,
   - 3.4. materials and equipment to be used,
   - 3.5. qualities required of teachers,
4. include intentions deliberately chosen to promote learning,
5. articulate relationships among different elements (objectives, content, and evaluation) integrating them into a unified and coherent whole, and
6. be a system.

English[13] describes curriculum design as a management tool for identifying and controlling results (pupil learnings) that are desired. English[14] further identifies that means of achieving desired results are fundamentally functions of time--task (content) relationships. In other words, "curriculum (design) is a plan that specifies resource configuration within a set of rules to enhance the probability that any given purpose is subsequently attained."[15]

If, as Drucker[16] indicates ". . .the proper structure of work--of any work--is not intuitively obvious. . .," then educational functions of curriculum make the obscure obvious. In fact, educational functions of curriculum not only identify mission and purposes for schools, but also identify that some purposes are more important than others.[17] Educational plans of curriculum design focus attention on primary mission and purposes[18] of schools. Educational plans state affirmatively "of all things we could teach in schools, these are the things we are going to teach." Or, stated in learner outcomes "of all things students could learn, these are the things they should learn."[19] Educational plans play similar functions to financial budgets. Financial budgets identify those functions for which organizations intend to spend money because they have been determined to be more important than other functions that were not, but could have been, included. It is the same for educational plans of curriculum design.

In the absence of educational plans, worthy outcomes in terms of benefits to students are left to chance. Worthwhile outcomes are achieved by accident or default but not be intention or design. English[20] claims that no rational and responsive organization "can leave to chance. . .those purposes for which it is reasonable. . .and expect to survive very long."

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9 Fenwick W. English, "Untieing the Knots in Public School Curricula," PMM and Company/Management Focus, (Washington, DC: Peat, Marwick, Mitchell and Company, May-June, 1979), p. 35.

10 English, op. cit. (ASCD)

11 Pratt, op. cit., p. 5; English, op. cit., (ASCD), and English op. cit., (PMM & Co.), p. 38.

12 Pratt, op. cit., p. 4.

13 Fenwick W. English, "Management Practice as a Key to Curriculum Leadership," Educational Leadership, March, 1979) pp. 408-409; English, op. cit., (ASCD).

14 English, op. cit., (Educational Leadership), p. 409; English, op. cit., (ASCD).

15 Ibid.

16 Fenwick W. English, "quality Control in Curriculum Development," School Administrator, (American Association of School Administrators, 1978), p. 49. English cites Drucker's thesis about the structure of work.

17 English, op. cit., (ASCD).

18 Pratt, op. cit., p. 4, 10.

19 English, op. cit., (ASCD).

20 Fenwick W. English, "Retooling Curriculum Within On-Going School Systems," Educational Technology, (May, 1979), p. 10.

Management Plans

Management plans in curriculum design are developed subsequent to educational plans. Management plans involve two distinct functions. One, management plans configure organizational resources into processes for efficient and effective accomplishment of defined purposes.[21] Second, management plans include defined measures for monitoring[22] efficiency and effectiveness of processes implemented to integrate organizational resources with regard to accomplishment of desired purposes.

Achievement of outcomes specified in educational plans are usually the direct result of the capacity of management plans to identify necessary resources and to integrate them into processes that are catalytic. In essence, ". . .quality of instruction is affected by quality of management."[23]

Conclusions About Curriculum Design

Conclusions about the worth of curriculum design can be readily drawn from a growing body of empiric data as well as evolving theory. The following are supportable conclusions about curriculum design:

1. Curriculum plans will reduce variance in the actual curriculum experienced by students.[24]

There will likely always be gaps between the ideal curriculum--the one prescribed in mission, purposes, goals and objectives--and the real curriculum existing in classrooms. The real curriculum is key to student outcomes. It makes little difference that there exists a written curriculum if that curriculum is never experienced by students. Curriculum variance will always exist as long as schools are places for people. Teachers will bring unique characteristics and abilities to classrooms. And, so will students. Teachers will also make choices about curriculum. And so will students.[25]

2. Accomplishment of specific purposes is not solely dependent upon formalization of purposes (educational plans) but also on development of management plans for their accomplishment.

The announcement of virtuous intentions does not cause their inevitable achievement any more than it discharges leadership in the organization from any further responsibility. Accomplishment of purposes requires leadership to mobilize people, resources and whatever else is required. Purposes are seldom accomplished by accident.

The educational plans of curriculum design establish prescribed relationships between content to be experienced by learners and time which determines order of experiences and amount of time to be allotted.[26] Management plans, on the other hand, configure resources around content-time prescriptions. Necessary support of educational plans include at least four basic resources: people--including all resources which individuals bring to classrooms, time--including both staff (system time) and students (client time), materials, and money. Processes for configuring resources are commonly identified as curriculum guides, schedules, budgets, policies, decision-making and so forth.[27] Although these processes are not commonly thought of as part of the curriculum they are as vital to achievement of intentions as the intentions themselves. Management plans identify, integrate, maintain, and control all elements of organizations in order to achieve conformance to design. Curriculum power, as identified by English,[28] is essentially the ability to achieve rational conformance to a sound design. It is the degree of conformance between elements of curriculum plans--content, time and resources--which will determine ability of schools to deliver according to intentions.

3. Curriculum rigor is not a function of numbers of students rejected but a function of ability of the design to include diverse learner differences within conforming frameworks of specific outcomes.[29]

The public cry for tougher standards is evidenced by Back-to-Basics and Competency Based Education movements. Many feel schools have not been successful in teaching students those things which are, by some general consensus, supposed to be essential for successful citizenship. Many generalize that schools are not tough enough, standards are too lax, and in some cases standards are even lacking. In effect, many are saying that curriculum is so loosely defined and managed that it virtually includes everything, excludes nothing; everyone is successful and no one is rejected.

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21 English, op. cit., (AASA, 1978), p. 51.

22 Ibid.

23 E. C. Grayson, "The Superintendent--Manager or Educator?" Educational Economies, (April, 1977), p. 11.

24 Gordon Cawelti, "Do Perceived Curriculum Leaders Really Function That Way?" Thrust, (ASCD, New Perspectives on Curriculum Leadership, January, 1978), p. 25.

25 English, op. cit., (Educational Technology, May, 1979), p. 7, 10, 11.

26 English, op. cit., (Educational Leadership, March 1979), p. 409; English, op. cit., (PHH & Co., 1979), p. 35' and English, op. cit., (School Administrator), p. 19.

27 Ralph E. Claybaugh, School Superintendents' Guide: Principles and Practices of Effective Administration, (New York: Parker Publishing Company, 1966), p. 77, 85; and English, op. cit., (Educational Technology, May, 1979), p. 8, 9-10, 11-12.

28 English, op. cit., (School Administrator), p. 19.

29 English, Ibid., p. 18.

It is not logical to assume that curriculum is rigorous because of the number of rejects that are produced. Rigorous curriculum is more rationally described as including the following elements:[30]

1) clear mission and purpose statements that establish defined boundaries for decisions about inclusion or exclusion of instructional programs, services, and practices,
2) planned relationships between content and time identifying optimal conditions for sequence and repetition leading to mastery,
3) plans for integration of resources--people, time and money--supportive of the defined mission and purposes,
+4) linkages between prescribed intentions (student outcomes) and content-time sequences to be encountered by students, and
+5) assessment (testing) linkages between prescribed intentions and actual student outcomes.

+"Curriculum mapping" is a management tool developed by Fenwick W. English for the purpose of monitoring congruence among the three elements of the curriculum: the prescribed curriculum (curriculum guide), the real curriculum (teaching) and testing.

Curriculum Leadership is Unique

The role of leadership in curriculum design is critical. Leadership not only affects quality of the design itself but also determines extent to which design is translated into programs, practices and services which achieve desired outcomes.

Leadership does not occur in isolation. Behavior of leaders and followers are intricately interwoven. Leadership, in its purest sense, occurs at points there are followers engaged in pursuits similar to, or compatible with, that of individuals referred to as leaders. Leadership, then, occurs whenever followers are engaged.[31]

Educational leadership is not leadership per se. Educational leadership is contextual. The context of educational leadership is school-community which has, or at least should have, preconceived, formal or informal, notions about mission and purposes. Educational leadership then, is limited to behaviors that are compatible with organizational goals.[32] In other words, leadership in schools is behavior related to accomplishment of defined mission and purposes.

Educational leadership is more closely related to management, a special kind of leadership. Educational leadership, like management, is pragmatic. Educational leadership is realization of organizational intentions.[33]

Leadership is collective or group-based. Burns[34] defines leadership as relational, collective and purposeful. Leaders are relational by creating links with others that allow communication and exchange to take place. Leaders also relate (are sensitive) to fundamental needs and values of others.[35]

Conclusions About Educational Leadership

Educational leadership is a management function. Boundaries of leader behavior include curriculum design, rules--both formal and informal--of organizations, and resources--human, material and financial--identifiable and available.

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30 English, op. cit., (Educational Leadership, March, 1979), p. 408, 409, 413; Robert A. Bennett, "New Perspectives on Instructional Leadership: Common Sense Critical in Improving Instruction, Thrust, (AASA, 1978), p. 27-28; and English, op. cit., (Educational Technology, May, 1979), p. 7, 8, 11-12.

31 Ron Brandt, "What Is Leadership?", Educational Leadership, Vol. 36, No. 6, March, 1979), p. 379. Brandt reviews the book Leadership by James MacGregor Burns; and James MacGregor Burns, Two Excerpts from Leadership, Educational Leadership, (Vol. 36, No. 6, March, 1979), p. 383.

32 Thomas J. Serviovanni, "Is Leadership the Next Great Train Robbery?", Educational Leadership, (Vol. 36, No. 6, March, 1979), p. 389, 393; and English, op. cit., (Educational Leadership, March, 1979), p. 413.

33 English, Ibid., p. 413; Burns, op. cit., p. 383; and Sergiovanni, op. cit., p. 393.

34 Burns, op. cit., p. 381.

35 Glenys G. Unruh, "New Essentials for Curriculum Leadership," Educational Leadership, (May, 1976). p. 582.

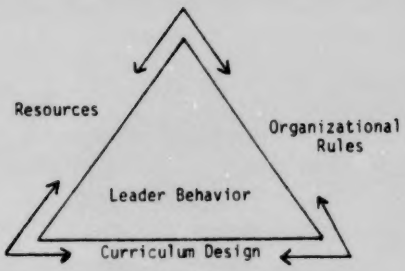

Figure 5

Management functions of educational leadership are constrained by curriculum design, organizational rules and resources.

The following conclusions about educational leadership in public schools can be derived from a vast body of empiric data and theory about leadership and management.

1. The function of any sort of management (of anything) is to ensure that desired purposes are attained with resources provided within the existing limitations (rules).[36]

Management does not depend upon accidental fortunes to achieve results. Management "programs" people and other organizational elements for accomplishment of desired results. "The cornerstone of effective management moves beyond acceptance of serendipidity as a measure of adequacy."[37] Management is goal centered.[38]

Basically, management has four functions:[39]
1) defining mission and purposes of organizations,
2) efficiently and effectively integrating resources essential to accomplishment of mission and purposes,
3) utilization of feedback of a) monitoring plans and progress for possible corrective intervention and b) assessment of outcomes, and,
4) motivation of personnel through leadership, including modeling, and communication.

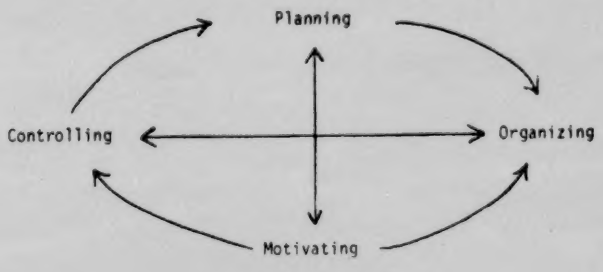

Figure 6

The functions of management are planning, organizing, motivating, and controlling.

2. Management skills necessary for successful leadership would fall into three categories: human, technical, and conceptual.[40]

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36 English, op. cit., (KASCD, 1980); and Leadership for Improving Instruction: Yearbook, 1960, (Washington, D.C.: Association for Supervision and Curriculum Development, 1960).

37 English, op. cit., (Educational Leadership March, 1979), p. 413; and Gilbert R. Weldy, "Principalships are Instructional Leaders: It's a Fact - Not a Myth," (NASSP Bulletin, January, 1979), p. 73.

38 ASCD, op. cit.

39 English, op. cit., (KASCD, 1980); Paul Hershey and Kenneth H. Blanchard, Management of Organizational Behavior: Utilizing Human Resources, 3rd Ed., (New Jersey: Prentice - Hall, Inc., 1977), p. 3-4; Unruh, op. cit., p. 582; and Frank Mullican and Len Ainsworth, "The Principal as Instructional Leader," Theory Into Practice, (Vol. XVII, No. 1, February, 1979), p. 35.

40 Mullican and Ainsworth, op. cit., p. 34. Mullican and Ainsworth cite Katz's premise of the three leadership skill areas; and Hershey and Blanchard, op. cit., p. 6.

Human skills would include ability to work in, with and through groups of people. Effective management personnel are able to understand needs of others, encouraging cooperation, and motivate others.[41]

Technical skills include ability to use knowledge, methods, techniques, and equipment necessary to perform specific tasks.[42] Conceptual skills may be more important than the other two because of "boundary" functions. Human and technical skills are applied in accordance to conceptual skills of leaders. Conceptual skills include the ability to not only see the whole enterprise but also the ability to recognize interdependence among organizational components in addition to ability to observe how changes in one area affect other areas.[43] Conceptual skills provide leaders ability to perceive effects of their behavior on organizations and permits them to act according to intentions of entire organizations rather than those of immediate groups,[44] or their own, leaving achievement of organizational intentions to default, accident or other actions incidental to accomplishment of intentions.

3. The context of educational leadership is defined by curriculum design. Educational leadership requires a source of organizational purpose and direction.

It is not intentions of leaders that are to be accomplished, but intentions of organizations. Organizational intentions cannot be subordinated to those of individuals.[45]

4. Effects of management are measured in terms of outcomes with respect to efficiency and effectiveness.

The degree to which outcomes are realized is the measure of managements' impact upon organizations. Efficiency in management is a criteria implying cost. Efficiency must be judged in terms of costs of achieving each outcome or cluster of related outcomes. "What costs were required to reach a certain outcome?" is a question of efficiency.

Costs may be computed for all resources expended in the process. Costs would include, but not necessarily be limited to, time - staff and client, personnel, materials, facilities and equipment, and money.

Management must also be judged on effectiveness. Efficiency and effectiveness are two distinct concepts. Functions of effectiveness are not "how much?" but rather "was it worth the cost?" Effectiveness looks at results achieved, compares them to intentions and judges relative worth of achievement in relationship to costs.

5. Management must include decision-making processes.[46]

Decision-making includes both acts of decision and actions of implementation and follow-up. Educational leaders need to understand basics of decision-making which would include the following:[47]

- 5.1 decisions are pragmatic in nature, i.e., value of decisions is dependent upon success of actions which follow,
- 5.2 decisions affect courses of action of enterprises, (even "no decision" is a decision - for no action), and
- 5.3 practically every decision is sequential, i.e., they are preceeded and followed by other decisions.

Role of Administrators

Administrators, seeking to become educational leaders, understand curriculum design and understand leadership in management contexts. Without such understanding, administrators may lead and they may not. It depends upon ability to engage followers. Without educational leadership, it is almost certain that organizational outcomes will not be realized, or if they are, default and accident will be the cause rather than design.

Educational leadership could be effectively summarized to include the following:[48]

1. Leaders assume primary roles in development of curriculum design specifying educational outcomes for learners and management plans for professionals.
2. Leaders have visions of purpose and abilities to articulate visions into goals, objectives, timelines, rules, relationships and responsibilities.
3. Leaders are professional specialists with skills in curriculum design but remain generalists in education.
4. Leaders are accountable for learning performances. All students are not going to learn all that schools have to offer, but professions must account for results that are achieved.

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41 Hershey and Blanchard, Ibid., p. 4-5; Mullican and Ainsworth, op. cit., p. 35, 36; and Unruh, op. cit., p. 582.

42 Hershey and Blanchard, op. cit., p. 4.

43 Mullican and Ainsworth, op. cit., p. 35; and Hershey and Blanchard, op. cit., p. 4-5.

44 Hershey and Blanchard, Ibid.

45 Ibid.

46 Daniel E. Griffiths, Administrative Theory, (New Jersey, Prentice-Hall, Inc., 1959), p. 75, 94.

47 Ibid, p. 75, 79, 95-96.

48 English, op. cit., (Educational Technology, May, 1979), p. 10, 11-12; English, op. cit., (KASCD, 1980); Cawelti, op. cit., p. 25-26; English, op. cit., (Educational Leadership, March, 1979), p. 408-409; Pratt, op. cit., p. 4, 9, 10, 11; Pratt also cites Bobbitt's contention that curriculum specialists must remain "specialists in life, but generalists in education," p. 30; English, op. cit., (PMM & Co., 1979), p. 36; and Gordon Cawelti, Effective Instructional Leadership Produces Greater Learning, (Washington, D.C., ASCD, Vol. 9, No. 3, January, 1980), p. 8-9.

5. Leaders possess skills in four critical areas: curriculum design, clinical supervision, staff development and teacher evaluation.
6. Leaders combine intellectualism (reflective thoughts) with activism (action).

"The Buck Stops Here"

The role of Superintendents of Schools is not important in educational leadership for schools. It is imperative. Superintendents can no longer be just "administrators." Superintendents must do more than lead in directions they are being pushed. Superintendents must be player-manager, but even more, superintendents must act as links between desired learning[49] and organizational potential for bringing it about. Superintendents cannot hide from responsibilities to lead.

The Superintendent's role as educational leader-manager could be described to include the following:[50]

1. Superintendents conceive, interpret, and then give effect to proposals that will elevate quality of education.
2. Superintendents lead, facilitate, even coerce formulation of curriculum design by continually raising questions about mission, purposes, and outcomes.
3. Superintendents educate communities, in general, and Boards of Education, in specific, about curriculum design and the roles each must play.
4. Superintendents develop patterns of involvement throughout school-communities that are practical, understandable to others and dependable.
5. Superintendents remove constraints and barriers to effective organizational development and carefully construct curriculum design to provide foundations for growth and boundaries for determining direction.
6. Superintendents make decisions about curriculum design so that decisions of others are purposive and responsive to the design.
7. Superintendents assist other personnel, especially principals, in developing and defining their respective roles as instructional leaders.

In summary, superintendents must evidence commitment to curriculum design. Vann agrees with the premise that the superintendents' first priority must be curriculum design. Vann reports results of studies indicating that subordinates will perform in areas according to their "perceived notions about their superior's priorities."[51]

Principals as Instructional Leaders

Principals will devote their time to areas in which their supervisor's (superintendents) place priority.[52] So it is with teachers. Behaviors of principals determine what is honored in schools.[53]

The role of building principals as instructional leaders could be summarized to include the following:[54]

1. Principals evidence commitment to instruction through both reflection and action.
2. Principals provide safe environments for professional exploration and self inspection. Environments of schools must be sufficiently safe to encourage searching for alternatives and risk-taking.
3. Principals specify expectations for teachers and students interaction. Principals who set high, but reasonable, standards for teacher behavior tend to cause teachers to set the same high, but reasonable, standards for students.
4. Principals assume leadership responsibility for the "real" curriculum that students experience in classrooms. Continuous monitoring of course content and student achievement is essential for conforming classroom curriculums to intentions contained in formal curriculum designs. All activities of schools should be organized to revolve around teaching and learning.
5. Principals perceive schools as ecological systems which, like its natural counterparts, nurtures itself and the living things (people) within. The ecosystems of schools must expect growth and change as natural courses of events.
6. Principals are persistent. Principals must tirelessly push, prod, guide and, above all, lead other professionals in commitment to curriculum design and instructional development.

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49 Claybaugh, op. cit., p. 85, 89; and English, op. cit., (School Administrator), p. 19.

50 Ibid., p. 77-78, 83, 86-87; English, op. cit., (Educational Technology, May, 1979), p. 10, 11-12; and Hershey and Blanchard, op. cit., p. 4.

51 Allan Vann, "Three Principals Discuss the Principal's Leadership Role," Educational Leadership (March, 1979), p. 405. The article also includes the role perceptions of Patricia B. Novotny and Robert E. Knaub.

52 Ibid.

53 John M. Jenkins, "The Principal: Still the Principal Teacher," NASSP Bulletin, (Vol. 56, No. 361, February, 1972), p. 32.

54 Ibid., p. 32, 34-35; R. A. Pendergrass and Diane Wood, ""Instructional Leadership and the Principal," NASSP Bulletin, (March, 1979), p. 42-43; English, op. cit., (KASCD, 1980); Mullican and Ainsworth, op. cit., p. 36; Vann, op. cit., p. 404-405; Robert J. Krajewski, "Secondary Principals Want To Be Instructional Leaders," Phi Delta Kappan, (September, 1978); and Gilbert R. Weldy, "Principals are Instructional Leaders: It's a Fact - Not a Myth," NASSP Bulletin, (January, 1979), p. 75.

7. Principals are responsible for selecting, orienting, supervising, and evaluating teachers. Teachers are key to curriculum, the one that is experienced by students. Roles of teachers cannot remain undefined, unsupervised, and un-evaluated. Most teachers want leadership from building principals including evaluation.

"What For?"

Research findings clearly identify qualities of effective and high achieving schools.[55] Among the findings are the following:

1. high teacher expectations of students,
2. frequent monitoring of student programs,
3. routinized classroom management tasks,
4. adequate student time on task,
5. opportunity for students to learn material on which they are tested,
6. appropriate levels of difficulty of materials,
7. strong instructional leadership,
8. favorable learning climate, and
9. high expectations of performance by principals.

It is the responsibility of educational leadership to cause achievement of specified student outcomes. In doing so, management must provide positive climates in which teachers are free (from non-teaching duties) to teach. Management is also responsible for protecting instructional programs including protection of students from exploitation, protection of time for teaching, and protection from interruption.[56]

Curriculum design provides frameworks for "getting it all together." Educational leadership is the catalyst for making it happen.

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55 Grayson, op. cit., p. 12; and Cawelti, op. cit., (1980).

56 Pratt, op. cit., p. 11; and Grayson, op. cit., p. 12.

BASIC SKILLS CENTERS FOR SMALL HIGH SCHOOLS

by

Laura Meeks and Gary Pernot

Currently Kansans' attention is directed at competency measurement for the basic skills of reading and math. Administrators are faced with the responsibility of finding solutions to the need for remediation. What should be done to help students who are not able to demonstrate appropriate mastery level skills in reading and math? One solution is to design a skills center similar to the ones in the Girard, Kansas school system. At Girard, two centers have been operating since 1975, one at the middle school and the other at the high school.

The primary purpose of both skills centers is to increase student achievement in math, reading and composition. Using a model of individualized instruction, students' performance is monitored through pre- and post tests. Learning is facilitated through several methods of instruction. However, the most important criterion used in order to prescribe the method is based upon principles of individualized instruction. In the Girard centers, students learn through individualized methods combined with group interaction.

Why do we need to individualize instruction? Our goal is to teach all students. But, we should not teach them all the same way. If students cannot learn the way we teach, we should teach the way they can learn. We know that students come to us with a wide range of interests and abilities. One reason we teachers must vary our methods rests on the observation that each student is a unique individual. Another justification for individualization is the awareness that students have for their own learning style preferences. Some are best instructed through visual stimulation, others auditorily and some through tactile sensations. These basic assumptions provide the rationale for using individualized instruction.

How can you individualize your instruction? Some methods include contract grades, ability grouping, learning centers, extra credit, conferences, peer teaching and units of instruction. The Girard skills centers use units of instruction, and these units will be described further in this paper.

What is a unit of instruction? Most of the units which are used at Girard are teacher-made. Each unit consists of the following components: goals and objectives, pre-test, information, exercises, post-test, remediation and additional post-tests. Several supplementary methods, techniques or activities are combined with these units to increase student motivation. Included are current events, games, personal experience discussions, case studies, resource persons, field trips, audio-visuals, peer teaching and role playing.

Individualized instruction has been criticized as a method which can only be used in classes of 10 or less. At Girard, students in the skills centers learn individually through individual learning prescriptions (objectives and learning activities for each student). Each English teacher has 12 students per class period. However, the Girard English teachers also successfully use this technique in classes of 27-33. Using individualized instruction requires advance organization and the development of materials. The materials and equipment used for teaching with units of instruction include pre- and post summary tests, progress charts, student activities charts, tape recorders with head phones and a slide projector. With very little expense or room, a teacher can facilitate learning for as many as 30 students using units of instruction.

Students learning through methods of individualization experience success. There are many advantages of this method of instruction. Students work at their own pace, building upon concepts which they have mastered--teachers do not waste students' time constantly re-teaching skills which the students have previously mastered. Gifted students can easily be motivated through this method. Another advantage of this form of instruction is students are given materials adapted to specific learning styles. Teachers should diagnose students' academic abilities, perceptual strengths, learning styles and major interests, using the results to design learning materials. With this adaptation students can learn the way they can best learn.

Other advantages result from individualization such as the building of positive attitudes. Students assume a great deal of responsibility for their own learning which prepares them for an attitude of work. Also, problems of absenteeism are reduced since students are not held together with group activities. And finally, teachers can easily measure students' specific learning by post-test evaluations based upon objectives previously measured in pre-tests. Competency with basic skills can be concretely measured and reported, for example, at parent conferences. Through diagnosis, prescription and evaluation the teaching-learning process does produce positive results moving students toward learning goals.

There are two disadvantages, however, for the classroom teacher using individualization. The classroom in this method is not a teacher centered environment. Teachers who enjoy lecturing and leading large group discussions will find students no longer depend entirely upon direct teacher communication. With individualization there is more contact between teacher and student on a one-to-one basis. Finally, it takes work to prepare an individualized unit program. Teachers would need a summer preparation period to initiate a complete program. However, with gradual infusion of individual learning techniques, a teacher could cope with the organization, development, and preparation needed for a program.

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The three main areas of emphasis in the Girard High School Basic Skills Center program (BSC) have been on reading, general math, and English.

Instead of students taking general math in the traditional classroom, they are enrolled in BSC. In the BSC they are given the Stanford Diagnostic Arithmetic Test to find their strengths and weaknesses. Upon finding a student's weaknesses, an individual plan is set up for that student. The student can work at his own pace and on materials he is interested in.

The BSC math students are taught individually by two math instructors who have had courses in developing materials and working with students on an individual basis.

The English and reading are also individualized for the students enrolled in the BSC. Approximately 66 students, who are functioning two or more grade levels below their reading potential, are enrolled in the BSC. The Iowa Silent Reading Test and informal testing are used to find each student's strengths and weaknesses. Two instructors, an English teacher and a learning disabilities teacher, work with each student and plan his program in both subject areas.

Girard's BSC has been fortunate to receive partial funding for the last seven years through the Kansas Vocational Department, under the Exemplary and Special Needs Division. With this money, local input and complete support of the Board of Education, the BSC has been a success story for Girard.

The gains the students have made on an average for the last two years are as follows:

Math Concepts	10 months
Math Computation	1.2 years
Reading	1 year
Vocabulary	1.2 years
Comprehension	1 year

The success of the BSC has been significant from the test results shown. But many student gains have been made that cannot be shown from testing such as attitudes, manners, cleanliness, and dress. The BSC staff feels that by improving a student's self-image, he will, in turn, improve academically.

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COMMUNITY DEVELOPMENT IN SMALL SCHOOLS

by

James Albracht

People working together on community development projects have a desirable effect both on the individuals and the community involved. Government agencies recommend advisory councils to help direct their programs, and include people in decision-making which are affected by the governmental agency program. Worker involvement in industrial decision making is increasing at a rapid rate. Occupational psychologists are recommending worker involvement in industry through the formation of groups called "Quality Circles."

"Quality Circles" are sometimes referred as Theory Z, with Theory X, a psychological theory which states that the worker is lazy and must be made to work. Theory Y is the theory which states that workers should be satisfied, and that the employer should make efforts to promote greater job satisfaction on the part of the employees. Theory Z states that workers and management should share the decision making in the job environment.

Japan is given credit for the development of the Theory Z psychology. Japan had the reputation of producing poor quality autos which did not stand up in the American market. Japan requested quality control specialists from the United States to teach them how to make better quality automobiles. Shortly before this, the Lockheed Aircraft was granted a guaranteed loan from the U.S. Government. One of the provisions of the guaranteed loan was that Lockheed would submit to rigid measures of quality control in the construction of airplanes for their job contracts. Industrial psychologists were contacted and they recommended worker involvement in the development of quality products. The workers became involved in making suggestions in manufacturing which would help turn out a higher quality project. The same industrial psychologists which advised Lockheed were contacted to consult with Japanese industries to help them build a better quality automobile. The worker involvement concept in Japan was as successful as it was with the Lockheed Corporation.

The Theory Z concept continues to grow in Japan, and the quality of Japanese autos continues to rise. The Japanese workers contribute two hours a week to "Quality Circle" meetings. This presenter had the privilege of seeing the "Quality Circle" groups in operation at the Boeing Aircraft Corporation. The groups took their responsibilities very seriously and have lowered company productions costs, and at the same time helped promote a better quality product. The "Quality Circle" concept could be valuable in small schools in Kansas. It appears reasonable to allow an hour or two each week for students in small schools to become involved with community improvement projects. A more effective school would be the end result if students were permitted to participate in community development activities.

Community development occurs as a result of people working together, and the community improves as a result of people doing things for the common good of all. Pride results from a better community, and an appreciation of the community increases as a result of students having a hand in community development activities. The end results of the community development process not only makes for an improved and efficient community but also makes committed students who are more likely to stay, live, and work in the community.

There are many community development programs in Kansas which are very effective. Civic clubs like the Lions, Rotary, Kiwanis, and others are very active and effective in promoting community development. The Chamber of Commerce, Junior Chamber of Commerce, and governmental agencies such as the Cooperative Extension Service are also very active in community development activities. The cooperative Extension Service sponsors the PRIDE community development program which encourages 4-H club members to be active in community development activities. The 4-H youths are from 8-21 years of age, and conduct community development activities as part of the PRIDE program.

Vocational agriculture departments through their Future Farmers of American chapters have a community development program referred to as BOAC which stands for Building Our American Communities. This program has been popular and effective in Kansas schools. A majority of the 160 schools which have vocational agriculture programs in Kansas participate in the BOAC program. The established BOAC program can serve as a model for a community development program in the small schools of Kansas.

Even if there is not an FFA chapter present, each school could still conduct a community development program. A key to success of the BOAC model lies in its ability to arrive at a consensus on the selection of the community development projects. One project is selected for the BOAC program each year. Care is taken to remain positive in the selection of the community development project, and to include the whole community in planning and conducting the program. Every effort is made to involve as many of the community agencies as possible in conducting the chosen project.

A good way of selecting the project is to have each of the students name three things they like about their community, three things they like about other communities, and three things they think could use improvement. The lists for all of the students are then consolidated and summarized to see which things are liked the most about the community, the three things liked most about other communities, and the three things that are in need of improvements as rated by all of the students who are going to be involved in the community development project. By starting with the positive statements, the group will more likely select a project which will have a high chance of success. Two or three possible community development projects will be selected for further study.

It is now time to appoint committees to begin study and gather information on the possible success of the 2 or 3 projects which were selected. At this time it is important that the committees gather information on the economics, technical, political, social, and moral aspects of the projects. The following questions are helpful in the decision-making process. What is the community support for the project? Which agencies want to cooperate in conducting the project? Are influential people interested in helping the youths, and can the economic, technical, social, political, and moral considerations be favorably met insuring a successful community development project?

At this stage it is important that consensus be obtained in identifying the project which has the best chance of successful completion. Consensus indicates that the community agrees with the selection of the project, and will assist with the completion of it.

If the above steps are followed, a successful outcome will be assured. The community will be improved and enriched as a result. The individual student will benefit because he or she will have a sense of belonging and achievement. Our schools will benefit because the student will be developing a feeling of pride of ownership in the community, and there will be a better chance that the students will stay in the community to produce their livelihood, and continue to develop the community through future community development projects. The students and the adults are present in our schools and communities who could plan and conduct community development projects. The students and the adults are present in our schools and communities who could plan and conduct community development projects. A youth group or class in the school could be the group which would carry out the community development project supervised by a teacher or other interested adult. The outcome would not only promote community development but better students and better schools would be the end result of the community development process.

DISCREPANCY ASSESSMENT AS A GROUP MANAGEMENT TOOL FOR DECISION MAKING AND PROBLEM SOLVING

by

Helen Morten and Jack Sumner

Introduction

This paper is a description of an exploratory attempt to develop a tool for guiding decisions and use in problems solving situations. Its uses are directly applicable to the management and planning processes of the Community Education Development Center at the University of South Dakota-Vermillion.

The methodology focuses on a discrepancy assessment which was developed to look at the perceptions of educators and administrators in South Dakota whose understanding is critical to the planning and outcomes of the center.

The approach used assesses the way in which persons viewed the current activities of the center and concurrently assessed the way in which the center might be expected to perform.

An examination of the center's operations and functions, the grant guidelines and an interview with the center director were all part of the preparations for the assessment. Subsequently, a one page instrument was developed, disseminated and the responses summarized.

A critique of the instrument and the process indicates that more and extensive planning is needed, a revision of the instrument and field testing is in order.

The following comments are not directed to the results of the assessment, rather they are directed to the development of the tool.

Background and Rationale

It is important to understand the environmental context of a project so the following narrative is a brief description of the factors that are believed to exist in South Dakota which have an impact. Historically, South Dakota has been considered an agriculturally based rural state. The rural nature persists today, however since 1950, when 66.8% of the population was classified as rural, changes are apparent in the urban rural balance. The 1970 census indicated 55.4% of the population was rural, and the more recent 1980 figures split the population as being equally rural and urban. Working in a state with 76,000 square miles creates problems for the administration of statewide program as exist in Community Education.

Changes in migration in the state have subtle impact on education. As people migrate to new areas they have expectations about opportunities and activities in their new communities that center around quality of life aspects of social and educational offerings.

Because Community Education programs impinge on these quality of life areas it is important to provide leadership and direction at statewide levels and to be responsive to changes and needs of programs. The goal statement of the Community Education Development Center at the University of South Dakota reflects the importance of this quality of life issue: "The goal of Community Education is to improve the quality of life in communities and to help restore the sense of community."

There is a commitment to quality of life in models of urban community education too. The Flint Community School Program, a model that has been emulated in many places, states it this way: "Thus the program demonstrates what Community Citizens can do through involvement and participation to improve their own lives and the quality of life in the community."

In the state, Community Education programs are operating in both urban and rural settings. As of June 1982 there are 72 school buildings committed to Community Education programming, most of these in rural areas. It is also important to point out that these figures represent programs receiving direct assistance from the Community Education Development Center and does not include other programs out there that self-identify their operations as Community Education.

For a center, such as the USD Community Education Development operation to maintain continuous coordination and communication in such a large and diverse land area poses special challenges. Considering that the center is generally in what may be described as a "development mode," there is little time to anticipate problems with sedulous deliberation.

The center does plan annually specific goals and objectives that are sufficiently broad to accommodate change and sufficiently specific to maintain a positive direction. For the period 1981-82 the actions of the center generally consisted of activities in five areas:

1. To provide technical assistance to developing and existing Community Education programs in the state.
2. To disseminate information and publications about Community Education and the services of the center.
3. To provide leadership in Community Education and matters critical to the interest of Community Education.
4. To provide professional preparation and staff development activities in Community Education.
5. To provide supporting activities for Community Education and related areas.

To support these broad general efforts, specific activities of the center were conducted. A partial sampling of these activities are:

1. To conduct and maintain personal contact with school administrators and staff members.
2. To serve as a resource to institutions, agencies and organizations.
3. To provide assistance in graduate study in Community Education.
4. To facilitate the work of the state advisory committee.
5. To provide regular distribution of the center newsletter.
6. To plan, organize and implement Indian Community Education training.
7. To support the development of alternative Community Education models.
8. To assist small projects with start-up and planning.

9. To serve as an advocate for Community Education with agencies, institutions and organizations.
10. To sponsor and promote conferences, workshops and related training.

Problem

The Community Education Development Center (CEDC) has made significant progress since its inception. Consistently high numbers of persons are being reached with education and training programs. As of June 1982, 376 persons for the year had participated in programs of the center. Even though this represents progress, the center director indicated an interest in expanding the program in terms of programs and in terms of geographical dispersion and distribution. Because, as previously mentioned, the center has been involved in developmental activities, the availability of a mechanism or tool for assessment was limited. Moreover, a tool that might be adaptive would have long term benefit and utility. It was also in the interests of the CEDC if an instrument could be prepared that gave the staff information about what the perceptions of administrators are about the center as well as information about what they should be doing. Since the center staff works closely with the state advisory council as a group, it was also helpful if the tool was appropriate for use with such a group.

In consideration of these items, the following problems were presented as possible areas for investigation in a pilot approach to the development of a comprehensive tool:

1. Are there specific functions the USD-CEDC performs and are they considered legitimate activities of the center?
2. Is the USD-CEDC the appropriate entity to be involved in the performance of the activities indicated above?
3. Should the center be conducting activities in the areas of technical assistance, dissemination, leadership, professional preparation, and general support?
4. Is the center conducting activities in the areas of technical assistance, dissemination, leadership, professional preparation and general support?

The first two problems were resolved after a review of the grant guidelines of the funding source for the center, as well as an understanding of the institutional commitment to the center. The second two areas were considered to be within the purview of the centers responsibilities and the use of an instrument. A checklist was tentatively used and later refined into a draft of the instrument reflecting these last two problems.

Process

When assessing the operation of education programs most of the attention seems to be turned toward looking at the outcomes of the program. Stake (1967) has suggested that two of the more important classifications for descriptive data are the areas of intents and observations. He also points out that when processing the results of these two classifications the matter of finding congruence between the stated intents and the observations made are also important. This has contributed to the development of a model for education evaluation described by Provus (1973) as discrepancy evaluation.

The use of discrepancy evaluation has also been presented to community educators as a means for continually analyzing the desired performance and the actual performance of programs. This schema has been presented by Mullarney as a comprehensive five part variation of the Provus' model.

The use of discrepancy evaluation has also been found in adult education programs and described by Mezirow (1973) as a means for examining incongruities between the stated intents of those involved in a specific program and their perceptions about current practice. This approach necessitates a comprehensive evaluation program designed around adaptable guides, interview instruments, questionnaires, and observation forms. Ideally, this approach on a smaller scale would be helpful.

The final version of the discrepancy tool used in this project was developed in consideration of the following:

1. An instrument that was short, easy to use, no more than two pages.
2. Short questions or statements that were simple to interpret.
3. Easily understood with a minimum of detailed directions.
4. Avoidance of open-ended questions.
5. Avoid a priori assumptions about the respondents understandings.
6. Adaptable for other uses after testing and modification.
7. Organized to reflect the existing activities of the center.
8. Use of a cover letter explaining the project and the instrument.

The final instrument consisted of 28 statements with the first 14 statements described as "should" statements. That is, "should the CEDC be doing. . .," and the remaining 14 statements were organized as "is" statements. These were statements asking for agreement that "the CEDC is doing...," etc. Mezirow provides a rationale for placing should statements first saying: "The sequence results in less distortion. When a person is asked about his intention he usually describes it as he sees it. Then when he is asked about what actually occurred his response is dictated by facts that may or may not correspond to the intention."

Conclusions

The results of the use of the instrument was prepared and distributed to the center, the funding source and other selected distribution.

The significance of the project is that the CEDC now has a tool for further assessment of the operation. This assessment can be considered valuable in its worth as a self-directed process for continuous improvement. The strength of self-guided activities are useful for formative as well as summative evaluation of the center.

Follow-up activities in many areas of interest to the center are now possible. For example, a discrepancy assessment for the dissemination function should permit an analysis and investigation of dissemination channels, special dissemination activities, the attributes of publications and materials, as well as experimentation with different means for disseminating information. An assessment of the items included in the area described as general support would seem to be especially valuable since Block Grant activities are included in this area. This area seems to be especially interesting to program directors and administrators at the present time.

Critique

In reviewing the product and the process there appear to be several points that deserve review. The first point is that in the construction of the instrument the statement asked for either agreement or disagreement with each item. When there was disagreement with an item the respondent generally tended to make an extra effort to explain why he or she disagreed with the statement. It is believed that instructions or the construction of the instrument could have minimized this. The second point is that the timing for the return should have been arranged differently. In late September, instruments were still being returned. The third point is that some space should have been allocated for subjective comments about the respective areas. Collecting the comments of the respondents from between lines and in the margin is time consuming and tends to probably slow down response time. The fourth point relates to the collection of additional demographic data. Because this went out to more than 180 superintendents in the state, the information about size, tenure of position, financial commitment and other matters would be worthwhile.

Despite the shortcomings in the process and the construction of the instrument as a tool, informal follow-up with selected respondents indicated a high level of interest and willingness to participate in future projects. With this encouragement and a greater awareness of Community Education in South Dakota, future uses of some form of this tool appears to be promising.

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CURRICULUM PLANNING: A TEN-STEP PROCESS

by

Weldon F. Zenger and Sharon K. Zenger

DESIGNED TO BE USED BY SCHOOL PRACTITIONERS:

The Ten-Step Process is designed to be used by administrators as a guide for leading the faculty through a large or small curriculum study. By checking off the steps and substeps as they are completed, administrators can determine exact progress of a study at all times. Also, by following the checklist, teachers and administrators can use this curriculum planning process as a guide to study, design, implement, and evaluate a new program, subject, topic, or course, and know exactly what is happening at any given time.

ALSO DESIGNED TO BE USED IN PRESERVICE EDUCATION:

The Ten-Step process is also designed to be used in college curriculum planning and development courses to assist in planning how to solve real or simulated curriculum problems. Class participants can identify a curriculum problem or need and then individually, or in small groups, follow the Ten-Step Process to develop a plan for solving their curriculum problem. They do not solve the problem in class, of course, but they do develop a course of action for solving it.

IN THIS PROCESS, YOU WILL FIND HOW TO:

- Plan and Conduct a Curriculum Study
- Plan and Conduct one Phase of a Curriculum Study
- State the Curriculum Need (Needs Assessment)
- Develop Curriculum Goals and Objectives
- Organize Resources and Constraints
- Develop Curriculum Committees
- State Roles of Personnel Involved
- Identify New Curriculum (A)
- Implement New Curriculum (A)
- Evaluate New Curriculum (A)
- Select Textbooks (Determine Readability)
- Develop Curriculum Guides
- Develop Teaching Units

WHAT THIS PLANNING PROCESS WILL DO FOR A SCHOOL SYSTEM

- Make the school system accountable
- Give curriculum planners an organized, systematic plan for developing curricula.
- Give school officials a basis for curriculum decisions--including program and staff reduction.
- Place the emphasis of curriculum planning in the hands of the professionals while allowing input from citizens and students.
- Clarify roles of school personnel and procedures in curriculum development.
- Relieve school officials of the anxiety and worry of how to plan, study, and develop curricula.
- Provide a plan of action for dealing with any problem centered on or in the school curriculum.

THE TEN-STEP CURRICULUM PROCESS

STEP

I. STATE THE CURRICULUM/PROGRAM PROBLEM OR NEED (CONDUCT A NEEDS ASSESSMENT IF NECESSARY)
Describes how to state the curriculum problem or need as well as how to conduct a needs assessment if necessary. It also shows how to assess and coordinate the curriculum if an extensive needs assessment is not desired.

II. IDENTIFY, REVISE, OR DEVELOP CURRICULUM/PROGRAM GOALS AND OBJECTIVES
Includes what curriculum goals and objectives area as well as how to write them at the district, subject area, course, or classroom level. The development of a school philosophy is also included in this step.

III. PLAN AND ORGANIZE THE RESOURCES AND CONSTRAINTS OF CURRICULUM DEVELOPMENT
Deals with the availability of finances, personnel, time, facilities, equipment, materials, and other direct or indirect resources, constraints, or barriers to curriculum development.

IV. STATE THE FUNCTIONS OF AND SELECT CURRICULUM COMMITTEES USED FOR CURRICULUM PLANNING AND DEVELOPMENT
Describes the functions, organization, and membership of the advisory committee, curriculum council, subject area, and study curriculum committees.

V. PLAN AND STATE THE ROLES AND RESPONSIBILITIES OF PERSONNEL INVOLVED
Identifies and states many of the roles and responsibilities of the personnel involved in curriculum development including the superintendent down to the teachers and outside consultants.

VI. IDENTIFY AND ANALYZE POSSIBLE NEW CURRICULA, PROGRAMS, OR OTHER INNOVATIONS TO MEET THE STATED CURRICULAR NEED

Deals with how to go about identifying and analyzing new curricula or programs that could fulfill the curricular need stated in Step I.

VII. ASSESS AND SELECT THE NEW CURRICULUM(A), PROGRAM(S), OR INNOVATION(S) MEET THE STATED CURRICULAR NEED

Describes how to assess and select the one new curriculum or program that will best meet the need identified in Step I.

VIII. DESIGN OR REDESIGN THE NEW CURRICULUM/PROGRAM (CURRICULUM DESIGN)

Covers how to design or redesign the newly selected program to fit a particular school system. It also includes how to develop a new course within the curriculum and how to write curriculum guides.

IX. IMPLEMENT THE NEW CURRICULUM/PROGRAM (CURRICULUM IMPLEMENTATION)

Deals with how to get the new curriculum started in a school system. Contains the necessary procedures before and during instruction as well as evaluating and selecting instructional material, including textbooks.

X. EVALUATING THE NEW CURRICULUM/PROGRAM (CURRICULUM EVALUATION)

Includes establishing criteria for evaluation, collecting and analyzing information, and making decisions from the information.

COMMENT FROM ONE SCHOOL SUPERINTENDENT:

Ralph Foster, Superintendent of U.S.D. 317, Herndon, Kansas made the following comment about the Ten-Step Planning Process:

With the ten step curriculum plan, the materials, goals and objectives, evaluation and revision procedures, and the several other aspects are well enough detailed that the administration can have an overview of the curriculum and make fiscal decisions. The results are savings of money, planning time, and mis-directed instruction.

In our small school district (92 students, K-12), we have used the curriculum plan to set up a Science curriculum (K-12) and a Social Studies curriculum (K-12) for the 82-83 and ongoing years. The plan allowed us to be more selective in the purchase of texts and support materials, saving 30% or more ($1400). Using the curriculum plan will continue to save money because it will be a guide to future staff (new and/or different materials will not need to be added). Replacement and supplementary cost will be minimal because the plan has already allowed/planned for contingencies. Implementing the ten steps of the process will initially save and sequentially continue to save money for a school district.

THE PRACTICE OF TESTING IN ELEMENTARY AND SECONDARY SCHOOLS

by

Arlen R. Gullickson

Educational measurement issues which reach us in overt ways, e.g., through the press, typically deal with standardized measures of aptitude and achievement. Yet, the most pervasive use of measurement occurs in the context of normal classroom routine. Such measurement, through formal and informal assessment processes, forms an important basis of communication among teacher, student, and parents. This communication tends to be personal, not public; low profile, i.e., not involving or engendering public discussion; and is controlled by the teacher. Since the communication has these characteristics, its measurement basis is rarely subject to close scrutiny.

What are the measurement practices of teachers? More specifically, what is the context in which tests are given; how are tests constructed, administered, analyzed, and reported? These are questions pertinent to the improvement of testing practices; questions which teachers might ask themselves in self reflection; and questions which measurement specialists must address in helping teachers to use tests effectively.

Measurement specialists (cf. Hopkins and Stanley, 1981) view evaluation processes as interacting with educational objectives and learning experiences, which together comprise the educational process. Whether evaluation processes, in particular tests, actually do function in this manner is open to question. Rudman and his colleagues (JRT, 1980), after a review of literature covering nearly 60 years, deplored the paucity of descriptive information relative to teachers' test use patterns. Their review makes it clear that while prescriptive information is abundant, the lack of descriptive data makes it impossible to determine if the prescriptions fit and are appropriate to practice. This study was initiated to address that prescription/practice gap and focused on the teacher testing practice questions posed earlier.

A mailed survey procedure was used to gather the information from teachers who were sampled from the South Dakota directory of teachers in elementary and secondary schools. In all, 75% or 336 of a total of 450 teachers, stratified by grade level (grades 3, 7, and 10) and curricular area (science, social science, and language arts), responded to the questionnaire. In each case the cover letter asked the teacher to respond relative to personal testing practices.

The teachers who responded to the questionnaire appear to be typical of teachers in general. That is, they are college graduates holding at least a bachelor's degree, with a quarter (24%) holding a master's or higher level degree. They are experienced teachers, the majority (50%) having taught 10 years or more. Ninety-five percent teach at least three classes a day and the majority have at least three course preparations. Most have taken only one course (57%) or no course (5%) in educational measurements, but for a large majority (84%), other courses have provided some information about the preparation of tests.

Almost all of these teachers use tests, with 89% of the elementary teachers and 99% of the secondary teachers (junior and senior high school) reporting such use. Not only do they test but they do so frequently. Virtually all test on a weekly (95%) or, at least, a biweekly (98%) basis. In this testing process, they use a variety of testing techniques, but only teacher-made, objective tests play a major evaluative role across all grade levels and curricular areas.

The questionnaire to which teachers responded was built on the premise that test use in cyclical in nature. That is, a test is initiated to meet specified purposes: preparations are made, the test is administered and analyzed, and the results are used in the context of intended purposes. Thus, in responding, teachers first provided contextual information. Then in the order cited above, they answered items regarding their personal testing practices.

RESULTS

Responses were analyzed by grade and curricular level to identify practices which are related to those two variables. Where significant effects were found, they are reported. In those situations where the dependent variables had interval scale characteristics, and several dependent variables were analyzed together, multiple analysis of variance techniques were employed (SAS, 1979). Where individual dependent variables were analyzed, if the dependent variable had interval scale characteristics, analysis of variance techniques were used. If only frequency counts were available for the dependent variables, Chi-square and contingency table analysis were conducted.

The Testing Context

When queried as to the role that several different types of tests had in their evaluation of students, teachers reported teacher-made objective tests as having the greatest role, essay tests as having the second largest role, followed by standardized objective tests and oral quizzes. Of the four, objective tests received much higher ratings than did all of the other three. Essay tests received high ratings at the secondary level but very low ratings at the elementary level. In general, the role of testing in the classroom increases from the elementary to the secondary level (Note 1). The role of testing also differs significantly, but not substantially, across curricula.

Testing is a time consuming activity. For example, in the use of teacher-made tests, some teachers report spending more than nine hours per individual test in the various test related activities. The typical, i.e., median teacher, reported spending slightly over three hours (190 minutes) on test related activities. Roughly this breaks out to 60 minutes for test preparation, 30 minutes for test correction and 20 minutes for post test review.

Given this background of teacher experience, the role of testing for teachers, and the amount of time teachers spend in the context of testing, teachers were asked which of several purposes classroom tests were expected to fill. Six separate purposes were identified and for each of those purposes,

the teacher was asked to rate, on a four-point basis, which constituted the purposes for which they used classroom tests (0 = not a purpose, 1 = minor, up to 3 = major purpose of test). Of the six, three received mean ratings of approximately 2.6. These were: instructional feedback for student learning (2.64), evaluation of instruction (2.62), and evaluation (grading) of students (2.58). Motivation of student study ranked fourth in ratings (2.23). The remaining two, assessment of the attitudes or interests of students (1.54) and providing opportunity for student input into evaluation of instruction (1.47), received substantially lower ratings.

Evaluation or grading of students and the assessment of attitudes and interest varied by grade level. Teachers placed less emphasis on grading purposes at the elementary level and progressively more emphasis through the senior high. The mean rating at the elementary level was 2.34, with a mean rating of 2.7 at the senior high level.

Mean ratings on the assessment on the attitudes and interests of students moved in just the opposite direction, being highest at the elementary level (1.81) and much lower at the secondary level: i.e., 1.36 for junior high and 1.46 for senior high, respectively. Clearly, teachers perceive tests as serving an instructional purpose both for feedback to the students and feedback to the teacher, with grading of students maintaining an important role in that feedback.

Test Construction

Teachers were asked about their source of items, the types of items that they constructed, whether or not their tests covered all of the material they teach, and whether or not they reuse their tests in subsequent semesters. They identified two primary sources for items. First, 93% view themselves as a primary source of items, i.e., they write their own items. Second, 60% also report using test items prepared by the publisher of the textbook which they are using. Two other sources, other published test items and test items prepared by other teachers, were identified as primary sources by substantially fewer teachers (23% and 12%, respectively).

In three of these areas, there were grade level of curricular area differences. A slightly lower percentage of elementary teachers write their own items (85%), as opposed to 96% for the secondary teachers. Also, elementary teachers are more prone to use textbook items (75% vs. 61% and 47% for elementary, junior high and senior high school, respectively). Third, although items prepared by other teachers were not the primary source for most teachers, junior high teachers were more prone to share items than were other teachers (i.e., 20% for junior high vs. 9% for elementary or senior high teachers).

When asked to identify what types of items they normally construct, most (54%) teachers checked several (i.e. four to five separate item types). The most popular type of item was short answer/completion (92%), followed by matching and multiple-choice (77% and 76% respectively), follower by true/false (68%), and finally, essay items (58%). The use of multiple-choice and essay items both differed significantly across grade level, with fewer teachers at the elementary levels choosing those items than at the secondary level. The use of true/false items differed across curricular area, with more teachers in the social sciences choosing to use true/false items than teachers in either science or language arts areas (83% vs. 69% and 55% for social science, science and language arts, respectively).

Two other general perspectives of test preparation were provided. One, even though teachers prepare their own tests, they do not perceive the tests as adequately evaluating all that they teach. Rather, the average teacher perceives tests as covering approximately 75% of the material taught. Second, once teachers have prepared tests they tend to reuse those tests in the future. Eight-four percent of the teachers report reuse of their tests of which 60% report reusing all or major parts of the tests and 25% report reusing selected items. Thus, for most, the preparation of the test does not require totally constructing a new test each time a test is administered.

Test Administration

Testing appears to be a formal, constrained situation in which students expect to be graded. Virtually all teachers (99%) do not allow student interaction during the testing process. A substantial percentage, 26%, do not even allow students to ask questions of the teacher. In addition, students are constrained in their use of support material. Seventy-nine percent of the teachers do not allow students to use their textbook, notes, etc., in completing a test. An exception to this general statement on support materials occurs in the use of calculators. While in general, 89% of the teachers do not allow use of the calculators, in the area of science where calculator use might be most prominent. Forty percent of senior high school teachers allow use during tests (it seems likely that this percentage would be substantially higher if teachers of physics and chemistry in grades 11 and 12 were queried.).

Teachers were also asked whether or not students were to provide answers in the test booklet or on separate answer sheets. While most require students to answer in the test booklet, a substantial minority, 36%, do not require the use of a separate answer sheet. This seemed important from two perspectives. First, if the tests were speeded, that is, given within time constraints such that many students could not finish the test, the use of separate answer sheets would be a substantial concern. Second, the use of a separate answer sheet provides opportunity for test booklets to be reused.

Speededness of tests appears not to be a problem as most, 92%, provide sufficient time such that almost all students have as much time as they need to finish the test. Regarding potential reuse, of those which use separate answer sheets 17% say it is solely for reuse of the test booklet, 38% say such use is solely for administrative ease in scoring, and 24% say it is for both administrative ease in scoring and reuse of the test booklet. Thus, approximately 20% of all teachers set up the administration of the test so that scoring of the test is facilitated, and approximately 10% of the teachers set up test administration procedures to facilitate future reuse of the test booklets.

Test Analyses

Teachers were asked to rate on a four-point basis--always, usually, sometimes, and never--and to respond to several items with regard to their scoring and grading practices. Here teachers report that they do their own scoring and grading of tests, i.e. 95 to 97%, respectively, either always or usually grade their own tests (junior high teachers report being slightly less likely to score and grade their own tests than are elementary and senior high teachers.).

Typically, teachers assign a test grade rather than providing only a numerical score. In this context, rarely do teachers just assign a pass/fail grade to student tests (mean score of 3.7 where 3.0 equals sometimes and 4.0 equals never). Related to this, most teachers (78%) use a criterion reference scheme for grading tests; only 10% use a curve basis for grading. Here criterion reference was used in the context of the example: 90% or better for an A, 80-90% B, etc. In addition to scoring and grading tests, 90% report providing written comments to students on at least an occasional basis, with 55% reporting they always or usually do.

A second set of items asked teachers to identify which statistics they used in working with test results. Here teachers report using relatively little statistical information. Ninety percent indicate that they provide a total test score. Less than half, 42%, obtain the range of test scores. Few, 10% to 13%, use such information as the mean, median and standard deviation. A fairly large minority of teachers reported use of item difficulty and reliability information, 31% and 29% respectively.

Clearly, many teachers erred in checking reliability and item difficulty. For example, not only would it be unwise to talk about the reliability of the test without gaining information about the variability (standard deviation) of test scores, but calculation of the reliability requires knowledge of the standard deviation. Also, calculation of item difficulty, i.e. the percent of correct responses for each item, requires substantially more effort than does calculation of the mean, median or standard deviation. Thus, the high percent of response for item difficulty and reliability suggest that many teachers do not have an adequate understanding of either the terms or how such information is obtained from test results.

Use of Test Results

Teachers attempt to return test results to the students in a timely manner; only 6% required more than two days to process tests for return, 83% returned the tests within one day of the test, and 7% indicate that they return the tests the same day.

Teachers were asked to apportion time spent with the class in review of the test into three categories: 1) review of scoring and grading procedures, 2) review of individual test items based on individual students request, and 3) review of individual items based upon the teacher's perusal of student results. The average teacher indicates that 16% of the time is spent in review of grading procedures, 41% in the review of individual test items based on student requests, and 43% in the review of items and item groups based on teacher perusal of tests. When viewed in the context of a median total time of 20 minutes spent in the class review of tests, this breaks down to approximately 9 minutes spent on items chosen by the teacher, 8 minutes on items chosen by the students, and three minutes spent in the review of grading procedures.

Finally, teachers were asked whether students were allowed to keep their tests, if tests were returned to the teacher and thus not available for individual student review, or whether tests were retained by the teacher and students were allowed to review the tests under supervision. In each case the teacher was to respond on an always, usually, sometimes, or never basis. Here, as might be expected, there were significant differences across grade levels. At the elementary level, the average teacher "usually" let students keep the tests. At the secondary level, teachers only "sometimes" let the students keep the tests. Commensurate with those findings, secondary level teachers more frequently retain the tests but allow students to review the tests under supervision.

DISCUSSION

A significant proportion of class time and teacher time is devoted to the activity of testing. If one estimates an overall average of 45 minutes per day, five days a week, is given to each class, and if it is also estimated that a teacher-made objective test is administered every other week, then nearly 20% of in-class time is devoted to test related activities. Probably even a higher percentage of total teacher work time is given to test activities. This substantial time investment is a strong argument for requiring teachers to be skilled in the practice of testing, and for developing efficient testing techniques.

But, as the results show, most teachers have very limited preparation in the area of testing. In the state of South Dakota, for example, collegiate programs routinely provide two semester credit hours of educational measurements to meet certification requirements. Any additional test information is provided at the discretion of individual faculty in methods courses. Other results suggest this limited educational experience is inadequate.

There are at least three tentative indicators that whatever is taught in pre-service courses does not spill over into sound testing practices by teachers. First, in the preparation of tests, short answer and matching items are the most popular items of choice. Both types tend to be limited to lower cognitive level, i.e. knowledge level, assessment (Hopkins and Stanley, 1981). Thus tests probably assess only lower cognitive level understandings.

Second, while the large majority of teachers reuse items, few teachers take the time or make the effort to systematically improve their items. This is suggested by the minimal amount of time given to test analysis (barely enough to score and grade tests) and by the minimal use of test statistics. As a direct result, test item improvement must be done on a very ad hoc and subjective basis.

Third, teachers appear to misuse criterion referenced tests. On the surface teachers' advocacy of criterion referenced testing would indicate evidence of a firm criterion referenced testing foundation. However, even if teachers clearly define their test domain -- a topic not addressed in this

survey -- they clearly do not address quality of items in a manner which would insure their items function as desired. Most reuse their items but without careful item analysis. Thus, criteria established by teachers are both artificial and subjective. For without knowing how items function, it is not possible to accurately set criterion levels for student performance. Regardless of the domain being tested, a test may be prepared which is very difficult or very easy. Also, the cognitive level of the test may be shifted so that only knowledge level items are addressed or higher cognitive level items are addressed as well. Results of this study suggest that neither test difficulty nor the cognitive level of items has been adequately addressed by teachers, thus criterion referenced testing is simply a word and not an accomplished fact.

Potentially, the consequences of these concerns are substantial. If tests are oriented toward lower cognitive levels and students are graded on their attainment of such knowledge, students must be motivated to focus on lower cognitive level learning. Also, because teachers grade on a criterion referenced basis, but without a-priori knowledge of how their tests will function, their expectations of students and their rewarding of students--grades, praise, etc.--must vary as a function of test quality. Such testing effects seem undesirable!

There appear to be three important factors which influence teacher practice. They are time, expertise, and tools available for the teacher's use. Given the already substantial amount of time that teachers apply to the testing practice, it seems unlikely that teachers can substantially add to the amount of time presently being used. Thus, teachers must either reorient their time (for example by using less time in test preparation and more time in test analysis), or they must find more efficient methods for handling the process of testing.

Quite likely, if the testing routines of teachers were studied in depth, there would be numerous ways of simplifying the testing practice process and improving its efficiency. These new techniques could then be brought to teachers through in-service and pre-service instruction to improve teacher knowledge and effectiveness in the area of testing. Such efforts alone would not be sufficient. There remain a substantial proportion of the teachers who are either uninformed or misinformed about basic testing concepts, e.g. reliability. Such concepts need to be represented to teachers in ways which are compatible with their testing situation so that conceptual concept understanding grows rather than deteriorates over time.

The use of tools available to the teacher is the third area that seems very appropriate to pursue. While at first glance it would appear that the tools available to those in testing have remained constant over the past years, in fact a number of substantial changes have been made. For example, the advent of the photo copy machine essentially eliminates the need to retype an item each time it is used. The hand-held calculator makes computation of means, standard deviations, and even reliabilities a relatively straight forward and short process. Also, the microcomputer is sure to facilitate the development of items and item analyses, as well as the individual testing of students.

Personal experience suggests that it is a rare teacher who stores items in a manner which allows test preparation without the need for individual item typing. Also, most teachers are relatively unfamiliar with the more sophisticated calculators which can do means, standard deviations, and reliabilities in a straightforward manner and they are unfamiliar with the possibilities which exist in microcomputers. Thus, improved practices require changing the habits of teachers, and educating them to overcome their lack of knowledge and fear of the more sophisticated tools. Even then, teachers may need to be persuaded that the payoff from improved tests is commensurate with the added effort.

If teachers are to improve their testing habits, and it seems important that they do, they will need assistance. This entails practical help in making them more efficient in their daily testing habits and new ideas and expertise in testing. Perhaps what is most clear, is the need to return to the basics of measurement. That is, a return to development of measurement techniques that will be appropriately used in the classroom.

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EFFECTIVE UTILIZATION OF MICROCOMPUTERS AND OTHER TECHNOLOGY IN RURAL AND SMALL SCHOOLS

by

Fred C. McCormick and Eileen R. McCormick

This paper has been based upon an investigation of the uses of technology in rural schools conducted by Educational Operations Concepts, Inc. (EOC), of Saint Paul, Minnesota, for the National Institute of Education (NIE). The investigation, completed in June, 1982, was summarized in a document entitled A Guide on Successful Uses of Technology in Rural Schools. The major sections of the Guide include state-of-the-art descriptions of nine technologies, practitioner observations regarding the planning, implementation and maintenance of educational technologies, and "thumb nail' descriptions of 18 interesting projects using one or more technologies in rural educational settings.

Although present usage of the term "educational technology" is synonymous in many peoples' minds with "computer usage," we would like to expand beyond to the wider range of possible technologies. Lawrence Grayson developed a useful scheme for categorizing existing educational technologies according to their capacity (audio, video, or computer) and their accessibility (used locally or over distance). Figure 1 summarizes that scheme. Although the classification was developed very recently (1981), we might suggest the following additions, reflecting the rapid advances taking place in technological development:

-Networked Microcomputers--a capability since 1981, thereby expanding their application to information retrieval, conferencing and message delivery;
-Interactive Video--a recent merger of the capabilities of computer and videotape or videodisc;
-Two-way TV--simultaneous two-way broadcasts, teacher to classroom and classroom to teacher; and
-Teletype--an "old" technology currently used successfully by educators.

	ACCESSIBILITY			
	USED LOCALLY		USED OVER DISTANCE	
CAPABILITY	HARDWARE	TYPICAL APPLICATIONS	HARDWARE	TYPICAL APPLICATIONS
Audio and Audiographic	Audio tapes	Stored lectures and discussions; Instructions	Radio Teletype* Telephone Dial Access Electronic blackboard Slow-scan television Facsimile	Pre-produced and edited programs; Lectures, seminars and discussions; Retrieval of audio information; Transmission of documents, still images and hand-written information Audio conferencing
Computer	Mini-computers Personal computers	Computer-assisted instruction (CAI); Computer-managed instruction (CMI); Computer-aided testing; Problem solving; Networking*	Central computers; Remote terminals; Time-shared computing	Information retrieval; Computer-assisted instruction (CAI); Computer-managed instruction (CMI); Computer-aided testing; Problem solving; Electronic message delivery; Computer conferencing
Video	Videotape Videodisc	Stored lectures and presentations Interaction instructional programs when combined with computers (Interactive Video)*	Instructional Television Fixed Service (ITFS) Cable Two-way TV* Satellites Broadcast television	Pre-produced and edited programs; Lectures, seminars and discussions Video conferencing

Figure 1. Classification of various technologies used in education.**

* Our addition

** *Source: Lawrence P. Grayson in 1982 Edition of Encyclopedia of Educational Research.*

The remainder of this paper discusses briefly the state-of-the-art of technologies and provides summary observations of practitioners regarding technology utilization.

State-of-the-Art: Technological Capabilities

The state-of-the-art of three technological capabilities (i.e., audio, computer and video) is discussed and descriptions of some interesting applications of these technologies are provided.

Audio and Audiographic Technologies

Speech has been and continues to be a primary means for instruction. Technological advances have allowed a person's voice to be recorded for subsequent replay or transmitted over distances by radio and telephone. Voice-grade telephone lines also facilitate transmission of visual information from one location to another as exemplified by teletypes and facsimile equipment.

As a medium applied to education, radio dates to the 1920's, experienced peak usage in the 1930's and 1940's, and continues today to have potential as an effective instructional tool. In some respects radio has been the forgotten medium for instruction. Two possible reasons may be offered. Instructional radio has always been largely dependent upon commercial radio for transmission. As the commercial value of radio became apparent, stations became reluctant to broadcast instructional material during morning and afternoon "prime time." The second reason often suggested for the demise of instructional radio was the inception of television. Its audio and visual capabilities attracted the attention of educators and student alike.

Although records and audio tapes have been available for educational purposes for at least 40 years, the advent of the cassette tape and cassette recorder/player made usage inexpensive and easily accessible. High quality tapes are available with selection dependent upon usage (i.e., music or spoken word). Most commonplace uses include: book and tape combinations, tapes to accompany film strips, stand alone tape presentations, and actual classroom tapings. Self-study courses via audio tapes and records have been available during the past 30 years, particularly in the areas of language instruction.

The use of the telephone in instruction is more recent than that of radio. Conceptually, the telephone should be at least as effective as the radio, if not more so, since it is more versatile and allows interactive as well as one-way communication. In an educational setting the telephone can be as simple as a microphone and speaker with amplifiers in two locations, or as complex as a network including dozens of sites. Additional advantages lie in the ability to transmit one-way hard copy by means of the teletype and in the currently expanding area referred to as audiographics or the ability to transmit visuals and graphics.

In the conduct of the investigation, we found the use of audio technologies to be "alive and well." The use of audio tapes was found to be incidental to many projects, and hence no project illustrating its use as singled out, however, the following four projects illustrate interesting uses of radio, telephone, and teletype.

By utilizing information provided by an Associated Press Teletype, students in grades 4 to 6 in a small Louisiana School District prepare a daily five-minute news broadcast on the single local radio station. Students form a daily news team, then gather, classify, summarize, and prepare the five minute program. Students have been motivated to improve reading and speech skills, in order to "sound good" while added interest in current events and parent interest have been unanticipated benefits.

In another setting, community radio is being provided by way of a school's low power FM station for a large area on Michigan's Upper Peninsula. Nearly 200 of the 300 plus students in grades 9-12, as well as other school and community persons, cooperate to provide broadcasts of local news, meetings, sporting events and public service programs. Total cost of operation per year to the school is about $2,000.

In Wisconsin, under the auspices of an intermediate educational service agency, a telephone network is provided to 24 small rural schools plus two urban high schools and a university campus. Although major use has been for inservice and meetings, 35 students in four districts took coursework in 1981-82 with high success, and it was anticipated that 200 students in ten districts would take coursework in 1982-83.

A similar, but statewide, project in Montana provides an audio teleconferencing network to interconnect educational providers and receivers. Educational offerings are available at levels varying from junior-senior high school to graduate courses, plus inservice coursework for K-12 teachers. In addition, statewide educational meetings are being held via the system.

Computer Technologies

Until a few years ago, most computers found in schools were essentially terminals linked by telephone lines (on-line) to large centrally located main-frame computers that served a variety of users by means of an arrangement called time sharing. Main-frame computers are capable of storing large amounts of information and performing complex calculations at high speeds. However, time-sharing arrangements are expensive because they require open lines to the computer. Additional problems included: downtime due to "crashes" during peak use; busy signals when attempting to access the system; long distance charges; and limited adaptability to the learning of programming itself.

Minicomputers are mid-range (in size and cost) between microcomputers and main-frame computers. They are characterized by integrated circuits connected together on a printed circuit board. Minicomputers have higher performance than microcomputers, with richer instruction sets, and a proliferation of high-level languages, operating systems, and networking methodologies.

Microcomputers, also known as personal computers or home computers, refer to complete tiny computing systems. The "heart and brain" of the microcomputer is the microprocessor chip. The chip is a tiny, thick slice of semiconductor material made of chemically treated silicon. Typically, a chip is small enough to fit on a person's fingernail, yet contains thousands of microscopic switching circuits that conduct electricity and process information. Although somewhat similar to the minicomputer, microcomputers differ in price, size, speed and computing power. In addition to the microcomputer itself, a variety of secondary or "peripheral" equipment expands its capabilities and can

make input and output arrangements compatible with user needs. Microcomputers can be connected to one another or "networked" by means of telephone transmission.

Instructions for the computer are called programs, software, or in the case of instructional programs, course-ware. Binary code (0's and 1's) is actually used by the computer, and early programmers had to work with "strings" of this code. However, computer languages have been developed that allow a symbol or word to stand for one or more groupings (bytes) of binary code. The most familiar language to microcomputer users is BASIC, which is actually a family of languages since it has several versions. Instruction in programming using BASIC may be considered only an introduction because several recently-developed languages as LOGO, SMALL TALK, LISP, and FORTH promise easier use and greater flexibility. Some of the higher languages available for microcomputers and main-frame computers include: COBOL, FORTRAN, PASCAL, and PL-1.

The major educational uses of computers are:

-Computer-Assisted Instruction (CAI)--an on-line, interactive process between learner and computerized delivery system in which the computer assumes a direct instructional role. The major types/methods of interactive computer instruction are: drill and practice, tutorial, simulation modeling, problem analysis and instructional games. The term "Computer Literacy" generally embraces these methods of instruction plus a basic awareness of the computer's potential.

-Computer-Managed Instruction (CMI)--a computerized method of testing, record-keeping and decision making that supports the instructional system and provides diagnostic feedback on student performance; and

-Computer-Based Education (CBE)--a computerized educational delivery system. The hardware and software in an educational environment provide instruction, testing, record keeping, and information resources.

Robert Taylor of Teachers College Columbia University identifies another classification of educational computer usage in his book, The Computer in the School: Tutor, Tool, Tutee. He suggests that as a tutor, the computer teaches its user. In this mode the computer is intended to complement the classroom teacher, not replace that teacher. As a tool, the computer provides a wide variety of services including preparing payrolls, managing library records, and administering/evaluating tests. As a tutee, the computer is taught by a person how to function as a tool and a tutor via the writing of programs.

Two recent surveys help to gauge the extent of computer use in schools. The first, conducted in October, 1980 under the auspices of the National Center for Educational Statistics, provided the following information: of the 15,834 U.S. school districts, 48% provided students with access to at least one microcomputer or computer terminal. At that time, there was a combined total of 52,000 microcomputers and terminals available to students for instructional purposes. Of those districts that did not offer computer capability, 18% planned to implement usage within three years. Most of these were school districts with student populations under 2,500.

A second survey effort, conducted by Market Data Retrieval of Westport, Connecticut, during the summer of 1981, contacted representatives of 15,442 school districts. This survey found that among small school districts (under 1,200 students) fewer than one in three had microcomputer facilities, while in larger school districts (over 5,000 students), two of three had microcomputer facilities.

At the present time, conservative estimates suggest there are at least 100,000 computers in use in schools across the nation. Market researchers predict that total will grow to 270,000 units by 1985.

Computers used for instruction, however, are no better than the materials they contain. While there have been great gains in computer hardware development, similar gains have not occurred in software or courseware development. Hence, buyers of educational programs should be careful and selective since much of what is offered for sale is not useful in the classroom. Presently, many educational organizations are attempting to monitor computer-based instructional materials in an effort to provide quality-assurance.

The conduct of our investigation would suggest far greater usage of computers than all other technologies combined; we were literally deluged with nominations of computer projects. Eight computer projects were reported in the Guide. Some of those projects are highlighted as follows:

-One of the oldest on-going computer projects identified was located in Minnesota. As of 1981-82, it has completed its fifth year of computer usage for instruction. This project utilizes a microcomputer center to study the feasibility of microcomputer usage for school management, computer-assisted instruction, computer literacy, computer programming, and community service. The district currently owns 35 microcomputers and 10 terminals or approximately one for each 19 students.

-A Delaware computer project is based entirely on a statewide time-sharing system providing computer-assisted instruction in reading and language arts. The long-range goal of this project is to provide computer capacity such that every student will have one per day of computer usage by 1998.

-In Arkansas, computer-based typesetting is enabling students in grades 9-12 to publish a community weekly newspaper as a School-Based Development Enterprise. This represents the first newspaper the community has had in over 60 years. Students receive credit in creative writing as part of their involvement in publishing activities.

-A three-pronged computer program has been developed in an Indiana school district. A nine-week computer literacy course is offered for all seventh grade students; an independent study program for beginning and advanced programming is offered to all students; and a teacher-training program on use, programming and implementation of computer education is provided. Well over half of the staff members have participated in the training and are using computers in their classrooms.

-An Oregon school district has developed a coordinated junior-senior high school electronics-computer program. Presently completing its fifth year, the program prepares students who complete the sequence to enter either community college electronics-computer courses or the local electronics-computer industries' training programs at an advanced level. The proximity of

a number of large electronic companies to this school district has provided career relevance for this program.

Video Technologies

A distinction may be made between educational television, which is currently widespread, and instructional television. Educational television usually refers to any type of program aimed at informing its viewers. Educational television programs frequently appear on commercial channels as special reports and documentaries. Educational television programming is also made available on the National Educational Television network.

Instructional television, on the other hand, generally refers to a program designed to track specific subject matter as part of a formal course of study. (In this sense, we examined only utilization of instructional television.) Instructional television, in turn, may have one-way or two-way transmission.

When small or localized audiences are to be reached, one-way instructional television may be an appropriate mechanism. This approach has been used regularly by institutions of higher education to provide graduate education to professionals located at plant or office sites. Several large consortia have also utilized one-way instructional television to provide programming for elementary and secondary classes, special needs students, and teacher inservice. The recent availability of satellite-based delivery systems for education has been used by such groups as the Appalachian Community Service Network. The network currently offers 65 hours per week of college courses, adult education and seminars.

Two-way instructional television systems are presently available and in operation, although some might consider this approach to be still in the experimental stages. Early users of two-way television mechanisms were located in Redding, Pennsylvania and Irvine, California; presently three midwestern sites are utilizing two-way instructional television in multi-district configurations. The sites are utilizing three different transmission modes as follows: low-power television and microwave; cable and microwave; and microwave only.

Videotape and videodisc are media for storing and playing video materials. Each videotape recorder is known by the size tape it uses and the tape configuration. There are five different tape sizes: 2-inch, 1-inch, 3/4-inch, 1/2-inch, and 1/4-inch tape. Examples of tape configurations (which refers to the packaging) are: reel to reel or open reel, video-cassette, and videocartridge. The equipment associated with videotapes is as follows: videocassette player (VCP) - a machine that plays but does not record videocassettes; videocassette recorder (VCR) - a machine that can record and play videocassettes; videotape player (VTP) - a machine that can play but does not record videotapes; and videotape recorder (VTR) - a machine that can record and play a videotape.

The videodisc is the newer medium for storing and playing video materials. The disc is similar in appearance to a long playing record. A single side of the disc stores 54,000 frames or pictures, or approximately 30 minutes of viewing. The videodisc has two independent audio tracks to allow two levels of audio presentation.

Videodiscs presently exist in two basic types: 1) capacitance, which uses a special stylus tracking arm to sense the disc information, and 2) optical, which uses a laser beam to recover electronically uncoded information and therefore is considerably less subject to wear.

Videodiscs present very distinct advantages, but they have disadvantages as well. The major advantages are: 1) discs store a great deal of information in a small amount of space; 2) discs are ideal for random access; 3) large quantities of discs are inexpensive to duplicate; and 4) some discs can be played at various speeds, even backwards, and can hold "stills" for extended periods of time. The disadvantages are: 1) disc player equipment is not standardized; and 2) the discs must be produced (pressed) and duplicated by commercial firms.

Interactive video or computer-assisted video instruction is a new application of two already existent technologies. It is possible to use the videodisc or videotape in a dynamically-programmed format with the microcomputer. Until the present time, microcomputer courseware has included text, computer graphics, and occasionally, with difficulty, sound. Merging the capabilities of the videotape or videodisc with the computer provides the best of both technologies, the full color and sound of the video plus the learner control provided by the computer.

In order to utilize this capability the following equipment is needed: a microcomputer, a video recorder, a video monitor, and an interface board to connect the computer and the recorder. Several research and development projects are underway, including some educational applications at Utah State University. The Minnesota Educational Computing Consortium (MECC) has developed an economics course in this medium. An anticipated joint project between two Minnesota school districts (one with a microcomputer project and one with a videodisc development) in 1982-83 will hopefully further develop and test interactive video.

The following are brief summaries of interesting projects, using video technologies, identified in the course of the investigation:

- Iowa, Minnesota, and Wisconsin have multi-district projects utilizing two-way instructional television. Each of these projects has been operational for one to two school years and each has experienced modest successes, most notably, curriculum expansion for senior high school students. The problems encountered have been largely "people" problems, particularly teacher anxiety over broadcast teaching, although equipment related problems have also existed.
- In Illinois, a student-built satellite receiving station is being used to receive video materials and make them available to eight area high schools either "on the air" or videotaped for supplemental classroom usage. Users estimate that the availability of resource materials has multiplied fifty times with the advent of the station. Because the station was built with used components and volunteer time, it cost approximately $4,000.
- The Letter Shop, a state validated project in Indiana designed to help kindergarten and first grade students develop pre-reading skills, utilizes 32 half-hour videotapes. The materials are presently used in 65 Indiana school districts; the project is in its seventh year.

-Students in "Media Now" classes use a variety of technologies including radio, television, videotapes, audio-tapes, films and slides. Media Now is a production-centered laboratory course of study in mass-media that has been approved for nationwide dissemination by the Federal Joint Dissemination Review Panel. Two exemplary users of the packaged course were identified in Iowa and California.

Practitioner Observations: Planning, Implementing and Maintaining the Utilization of Technology(s)

A number of observations were made, in the course of our inquiries, but practitioners in rural schools, relating to planning, implementing and maintaining the utilization of technology(s). These observations have been summarized under the following topics: Board and Administrative Perspectives; Teacher Involvement; Student Acceptance and Instructional Effectiveness; and Cost Factors. A brief summary of recommendations follows these observations.

Board of Administrative Perspectives

The following observations have been made relating to school board and administrative perspectives regarding technology utilization:

-Technology utilization may provide a rural school greater flexibility in curricular offerings and has the potential for improving the quality of education in the rural school district.
-Technology has been the basis of cooperative arrangements between/among a number of school districts, offering together what one rural school district could not afford alone.
-Technology may help in overcoming distance and transportation barriers and costs in rural areas, as well as barriers related to weather conditions for travel. Thus, students do not need to be transported as frequently.
-Technology may ease the need for some teacher layoffs (e.g., ability to maintain a Spanish teacher if shared with other districts utilizing instructional technology).
-Technology may help alleviate the need for consolidation among rural schools.
-Major problems in utilizing technology, common among all schools, but magnified in small and rural schools, appear to be:
    -Money for hardware/software;
    -Staff development;
    -Communications among developers and potential users;
    -Confusion (and some differential pricing) caused by myriads of vendors/salespersons in the field;
    -Lack of follow-up (servicing) by vendors/sales organizations, following installation;
    -The existence of many well-composed programs that are poorly suited to classroom use or integration with existing curricula; and
    -Publicity efforts relating to new technologies which generate inquiries and result in additional time and expense for project operators, thus possibly detracting from the day-to-day effectiveness and efficiency of the projects.

Teacher Involvement

The following observations have been made relating to teacher involvement in technology utilization:

-Teacher-initiated utilization of technology(s) usually experience easier acceptance patterns than administratively-initiated utilizations. Teachers need to be involved in the planning and developmental processes, regardless who has initiated the utilization.
-Technology can be utilized effectively to supplement, not to supplant the teaching efforts of teachers. Even with the use of technology (e.g., two-way television) there is still a need for student and teacher to "meet first hand," at least occasionally.
-Use of new technologies must be "sold" to all school district persons, but particularly to adults (who have been educated in a "no hands-on" era) in order to overcome fears of technology.
-Some teachers may resist technology utilization; teacher training/re-training is necessary, and needs to be a greater priority with teacher trainers.
-Local enthusiasm in implementation and continuation of technology utilization is often due to the efforts of one individual teacher advocate. Administrative and Board advocacies are also helpful.
-Some questions teachers ask include:
    -**Is technology usage instructional (i.e., in the mainstream) or is it an appendage?**
    -**Does technology create a lack of interaction between the teacher and student?**
    -**Are educators using technology as a "quick fix" rather than searching for quality as a permanent solution?**

Student Acceptance and Instructional Effectiveness

Student acceptance and instructional effectiveness is the "bottom line" relating to the utilization of technology(s) in rural schools. The following observations are associated with these areas:

-Technology may be most successful when used with students at the two ends of the high/low achievement scale. Technologies are being used successfully with special needs students, including the gifted.
-Technology utilization may be more effective and more easily accepted when it is made available in the classroom, rather than as a "pull out" activity.

-Technology has made it possible for rural school districts or groups of districts to provide curricular offerings to students which were not available prior to its utilization on a "shared basis."
-Concrete, "hands on" evidence of technology utilization will usually result in a higher degree of student feedback and parent acceptance. An example is a (hard copy) computer printout which a student can take home to share with parents.
-Career and occupational implications of technology utilization (e.g., computer programming and its job-placement potential) are directly related to parent and student acceptance.
-The functionality and workability of the technology should be checked out and confirmed before it is linked into the instructional process(es). Failure to do this may lead to frustration and lack of confidence in the technology.
-Generally, student discipline in a learning/technology situation has been no more (and often less) of a problem than exists in more traditional learning situations.
-Generally, students enjoy their use of technology(s) in learning and believe that they learn and retain as much or more than they do in other (traditional) modes of instruction. Student testing, to date, (with experimental and control groups) tends to confirm this observation.

Cost Factors

The following observations have been made relating to costs and cost factors in technology utilization:

-"Front-end" costs associated with the capitalization of instructional technology hardware (and some software) are the greatest share of total costs. Rental of telecommunications lines is also a major cost. (The potential for higher costs of rental lines appears to be increasing.)
-Ongoing costs are difficult to predict, since much of the equipment is new and its actual "useful life" and "track record" have not yet been determined. Longevity of equipment is yet to be determined in many instances.
-Federal and state grants (and some private foundation grants) have played a large part in initial start-ups of technology utilization.
-"Scrounging" of used and surplus equipment, and staff/student efforts in construction, have effected large cost savings in making technologies available in some rural school situations.

Summary Recommendations

The following Summary Recommendations for the utilization of technology(s) in instruction are based on the observations reported above. They are provided particularly for rural and small school practitioners who might wish to introduce technology applications within the teaching/learning situation, as one means of "moving forward in times of adversity."

*Remember that technology can be utilized effectively to supplement, not to supplant, the teaching efforts of teachers.
*Try to organize and involve an interested and enthusiastic staff group (particularly teachers) in all stages of technology utilization.
*Seek to build staff skills in utilizing the technology(s) to be implemented. Support and provide pre-service and in-service sessions and retraining as necessary. This is time and money well spent. Express your needs to teacher trainers and teacher training institutions.
*Seek advice from other practitioners utilizing the same technology before adopting/adapting it in your instructional system. Seek the assistance of state and national organizations/agencies dedicated to the utilization of technology, including the vendors and sales organizations.
*Be certain to check out the functionality and workability of the technology before linking it to the instructional process. Be certain that it "works," and has a high probability of success.
*Seek ways to show "concrete" results in instructional effectiveness and student change as a result of implementing the technology(s). Show how students' involvement with technology can have effects on their future living, including careers and opportunities in the world of work.
*Look for ways to communicate and share with practitioners in other schools, both rural and non-rural. These are not good days for "reinventing the wheel."
*Try to make available the technology as near to the regular learning situation (e.g., the classroom) as is feasible, rather than as a "pull out" activity.
*Avoid fragmentary approaches to curriculum development in introducing technology(s). Try to make the implementation a school-wide, if not a district-wide effort, and a part of orderly curriculum development.
*As Wells has so aptly written, "Start small. Build slowly. Incremental growth you can manage; instant sophistication is risky. Success, not glamour, is what counts." (Wells, 1979)
*Be prepared to change and to be flexible in any planning, implementation and maintenance strategies you may employ to utilize technology. Technology grows, changes and is not static.

Additional resources related to the content of this paper include:

A Guide on Successful Uses of Technology in Rural Schools, National Institute of Education, Washington, D.C., June, 1982. (The Guide includes more complete descriptions of projects noted in this paper plus additional interesting projects/programs utilizing technology(s).)

Baker, Justine, Microcomputers in the Classroom, Phi Delta Kappan Fastback 179, 1982.

Grayson, L. P., "New Technologies in Education." Encyclopedia of Educational Research, 5th Edition, 1982.

Joiner, L., Vensel, G., Ross, J., Silverstein, B., Microcomputers in Education: A Non-Technical Guide to Instructional and School Management Applications. Holmes Beach, Florida: Learning Publications, Inc., 1982. (Appendices include lists of microcomputer vendors, printers and video displays, peripherals, software sources and software reviews, newsletters, magazines, journals, directories, organizations and resource centers pertaining to microcomputers.)

Taylor, Robert P., ed. The Computer in the School: Tutor, Tool, Tutee. New York: Teachers College Press, 1980.

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GETTING STARTED: A GUIDE FOR HELPING THE INEXPERIENCED TEACHER BEGIN THE SCHOOL YEAR

by

Leo Schell and Paul Burden

What happens in an elementary school classroom during the early days of the year has been shown to be influential in how well the classroom is managed the rest of the year and even to some aspects of pupil achievement. But, few undergraduate elementary education majors, while still in college, have the opportunity to observe and/or participate in how to prepare for and to begin school. Additionally, there are no known published resources telling these neophytes what to do and how to do it and literature on the topic indicates that it is done mediocrely--if at all--at the school/district level.

We surveyed 300 teachers from all over Kansas who had taught a minimum of three years and asked to list 2-20 specific suggestions they believed would be helpful, practical, and realistic for an inexperienced teacher to use in beginning the school year smoothly, soundly, and efficiently. We received 140 returns containing over 1000 individual suggestions. Following are categories of activities derived from the suggestions.

Getting Acquainted

1. Community Resources
2. School Facilities
3. School Personnel and Services
4. School Rules, Procedures, and Policies
5. Curriculum, Textbooks, and Instructional Resources
6. The Children

Getting to Know Children

1. Study the cumulative records for each child.
   a. Make frequency distribution of achievement in areas such as reading and math.
      1. Use standardized test scores and/or data on level of book completed.
      2. Note range, mean, and composition of class. Use this data to tentatively answer questions such as:
         Is the group about average in reading (math, spelling, etc.)?
         Will grade level texts be appropriate?
         Is there a larger than expected number of high or low achievers?
         Does there seem to be some tentative groups for reading and other curricular areas?
         Etc.
      3. Consider these data as "indicators," not absolutes"!

   b. Study each child's folder.
      1. Study the photographs--try to learn names.
      2. Learn about family/home situation.
         Note names of parents/guardians. Don't assume same last name as child's.
      3. Note any outstanding strengths, weaknesses, interests, capabilities, etc., both academic and non-academic.
      4. Record birthdays on room calendar.
      5. Notice if child was in any special programs, e.g., LD, speech therapy, gifted, EMR, etc.
      6. Note any health, physical, medical, or learning problems.
      7. Note any mainstreamed children, the subject(s) they will be in your room for, etc.
      8. Treat comments by former teachers with a "grain of salt."
      9. Determine if there are any children who, for religious reasons:
         a. Cannot participate in some school activities or have some restrictions on them, e.g., some religions don't use services of physicians; some don't observe the religious aspect of Christmas, etc.
         b. Will participate in some religious holidays or activities that most other children won't, e.g., Yom Kippur and Passover (Jewish), Ramadan (Muslim), etc.
         c. Talk with children's former teachers.
            1. Classroom
            2. Special Education
            3. Etc.
         d. Talk with building principal.
            1. About children in general.
            2. About specific children.
         e. Cautions
            1. Try to be objective; try not to form negative opinions about children. Consider each child capable and special and give them many opportunities to prove themselves.
         f. Prepare a file folder for each child in which to keep room records, samples of child's work, etc.

Becoming Familiar with Community Resources

1. Ask fellow teachers/administrators, parents, neighbors, etc., about community resources that can enrich your learning experiences.
   a. Get responses in writing. Compile a list.
   b. Survey parents when children enroll. Ask about their own resources and what they'd recommend. Use a prepared questionnaire.
2. Learn about people in the community who can provide special services.
   a. Talents and hobbies, e.g.,
      Weaving, rock collecting, unusual pets, arts and crafts, amateur radio, etc.
   b. Information
      1. Photos/movies of other countries, souvenirs and memorabilia, etc.
      2. Vocational knowledge, e.g., mechanics, accountants, florists, salespersons, masons, equipment operators, meterologists, etc.
3. Learn about resources in the community which can be used.
   a. Museums and historical sites.
   b. Places of business that give tours, etc., e.g., banks, grain elevators, industries, post office, dairies, orchards, airports, lumber yards, grocery stores, water plant, newspaper, etc.
   c. Organizations such as historical societies, Chamber of Commerce, etc.
4. List tentative classroom visitors and field trips before school begins.
   a. Coordinate with major curricular topics.

STRATEGIES FOR RECRUITING AND RETAINING TEACHERS IN RURAL AND SMALL SCHOOLS DURING SHORTAGE PERIODS

by

Wm. H. Kurtz

The teacher shortage is real. Despite reports from several sources, who believe that the decline in student population will produce a significant surplus of teachers, the latest report from the National Education Association indicates that 37 states reported a critical shortage in at least one region and at least one curricular area. There are other signs of the broad based nature of this shortage:

- -In 1972 34% of all Bachelor Degree recipients were prepared to teach. By 1982 this number was 18% and it continues to decline.
- -The 1982 supply and demand report of the Association for School, College and University Staffing indicates that 18 teaching fields had a shortage and that only two (Art and Physical Education) had considerable surpluses. Eleven others showed some surplus.
- -The State of Georgia has hired a recruiter to find out-of-state teachers to "reduce the number of teacher vacancies."
- -The increase in school age population will become significant in 1984 and would approach the peak numbers of the recent "baby boom." In "A Profound Transformation" produced by the American Association of School Administrators, this phenomena is shown to effect the educational enterprise through the year 2000.

There are several influences that will effect the intensity of the shortage. These are attitudes about teaching, working conditions and economic conditions.

A study of teachers conducted by Sam Houston State University indicates that one out of three teachers are seriously planning to leave the profession. Those who actually left teaching had an average salary of $14,112 after eleven years experience. This compares to entry level salaries that average $20,000 per year in competitive markets. Because of the size of this disparity, teachers have developed a strong negative attitude towards their economic status. As prospective teachers learn of these attitudes, they eliminate themselves from teacher preparation programs. Consequently, fifty percent fewer students are entering preparation programs than in 1971.

As a result of information gathered in studies at the University of Michigan, Georgia Southern and Southwest Texas State Universities, it is believed that working conditions are a great influence on those leaving the profession. Of those who left after one year, only one fourth gave money as the primary reason. Basic reasons cited were lack of support from administrators, other teachers and the community and problems encountered in sponsoring extra class activities not related to instruction. Money became more important as years of experience increased; however, the feeling of no support permeated all replies. Teachers felt completely abandoned by those whom they felt could and/or should be helping them. Isolation, lack of communication, lack of understanding and lack of guidance were consistently expressed as negative perceptions of their work. Curiously, when administrators of these teachers were contacted they felt they had good orientation programs, communicated well with the staff and, in general, seemed unaware of the problem. This phenomena indicates a need for examining existing strategies to see if they are effective. The development of a program to protect against this communication breech is a major part of the retention strategy.

The absence of possibilities for advancement within the teaching ranks is also a significant negative influence for teachers. It is indeed rare to find a creative promotion system for teachers without being taken from the classroom. Alternatives other than administration or counseling are being sought by an increasing number of teachers.

Changing economic conditions are also causing concern. We may be developing an aparthied society based on financial ability, rather than racial superiority. In times when only a portion of the society can afford to move, the frustration level of those left behind can only increase. It radically changes the only promotion pattern now available to teachers--that of moving from a smaller or "less" prestigious district to larger districts providing increased financial support for their teachers. The combination of these data create an effect that is demoralizing for teachers. The stimuli are so strong that leaving the profession seems to be the only viable alternative.

When these data are reviewed collectively it indicates clearly that an evaluation of present strategies for recruiting, orientation and retention of employees should take place. Without new, effective efforts, quality will significantly decline. The next section of this monograph presents some workable strategies gleaned from districts that are now using them. All will not work for each district but they should provide a base for improving any district.

Recruitment Strategies

Developing more refined recruitment strategies is critical to solving the problems community schools are now facing as they compete for quality personnel. Administrators in these community schools must design and implement a plan for teacher recruitment that specifically reflects the need and uniquenesses of the local district. Effective recruitment designs generally focus on the following topics:

- -Friendliness of small communities
- -Potential for status available in the prospective community
- -Flexible programming to work in one's own interest area
- -Small enrollments facilitating individual attention to students
- -District focus on quality education programs
- -Administrative support for professional growth and development
- -Peer support environments
- -Professional growth opportunities

-Any special self-development opportunities available such as proximities to professional libraries or extended university programs

Developing the Recruiting Strategy

The key to effective teacher recruiting is encompassed in the ability of the recruiter to locate teachers who possess characteristics which are congruent with the needs of the school. These "ideal characteristics" for many smaller schools usually include, but are not limited to, teachers who are:

-Certified and able to teach in more than one subject matter area or grade level
-Prepared to supervise several extracurricular activities
-Able to teach a wide range of abilities in a single classroom
-Able to adjust to the uniqueness of the community in terms of social opportunities, life styles, shopping needs, and continuous scrutiny.

As the recruitment strategies are developed, each of these concepts must be expanded so as to specificately represent the true needs and true characteristics of the community. The closer these characteristics reflect the reality of working and living in a district, the greater the probability of securing and retaining quality teachers.

Some strategies now being used by school districts are presented as practical suggestions for items to be included in the plan for recruiting:

-The easiest and most efficient strategy for teacher recruitment is based on a competitive salary and extra duty pay schedule. The community is the key to this suggestion, and they will determine the part that money will play in the recruiting effort. Patrons must make an overt decision to pay what is necessary for attracting quality teachers.
-A very broad fringe benefit package may be more attractive to prospective teachers than salary. These benefits may include such items as:
    -paid insurance premium (i.e., medical, hospital, dental, life, and salary protector)
    -personal leave
    -sick leave
    -professional leave
    -credit unions (i.e., Board of Education matches 1/2 of teacher contribution)
    -sick leave bank (some days of leave are in a "bank" to be used by any employee who has needs in excess of available days. These are repaid after they are used.
-The district can subsidize the cost of teacher retraining to fit the needs of the school district. This offers the prospective teacher a method to obtain an additional area of certification.
-The district may offer to pay the costs of a teacher earning a master's degree, and in turn, the teacher makes a commitment to teach in the district for three years after receiving the degree.
-The district may identify outstanding junior level education majors in the various colleges and universities, select those that meet the district's needs and offer financial assistance in the form of scholarships. This agreement would be contingent upon the student's willingness to sign a letter of commitment to teach in the school district for a specific period of time.
-Administrators could telephone schools of education and request names of the highest ranking graduates in the field in which personnel were needed. School administrators would then call the recommended graduates, explaining their penchant for quality and why they were interested in that particular graduate. Paid trips to the district would be offered for these individuals.
-Districts may find it helpful to incorporate local community groups and potential support systems into packaged recruitment materials. This strategy uses community groups as the featured organizations on brochures or letterhead stationary so that the potential recruit has a feeling of belonging to the larger community.
-Some districts have involved local businesses, welcome wagons, civic clubs, and other groups in their actual recruiting processes and interviews. The friendliness exhibited by some of these groups has frequently facilitated hiring processes.
-The district may identify and actively recruit outstanding teachers in large districts and prospective teachers that were raised and educated in smaller schools by reminding these individuals of the many benefits they received while growing up in a small town atmosphere. These benefits may include such items as:
    -a slower pace of living
    -smaller class size with an opportunity to get to know each student as an individual
    -raising children in a more controlled environment
    -opportunities for children to be involved in several extracurricular activities.
-Paying interview expenses of the applicant.
-Assisting with securing moving loans or paying part of the cost of relocating.
-Arranging for interest-free loans before arrival of the first paycheck.
-The district may emphasize teacher autonomy and direct access to the administration. The teacher may be the only person working in a specific subject area or grade level, thus having greater control over the learning outcomes (curriculum) and the teaching methodology (instruction). The chance to directly influence administrative decisions is quite appealing to many teachers.
-The school district could provide less expensive housing for teachers. This recruiting idea could be accomplished in several ways:
    -The district could implement a vocation education program in the building trades. The students would learn a saleable skill (carpentry) and at the same time develop a rental property for teachers.
    -The district could encourage members of the community to provide housing. The local banker can have his/her bank provide less expensive housing in the form of duplexes, houses, or mobile homes. This idea incorporates the community to become part of the recruitment plan.

-The school district could encourage the business community to help by providing summer employment for teachers. If the school recruiter is able to reasonably assure this, the candidate is more likely to accept the position. The business sector in the community should welcome the opportunity to hire quality individuals. Using this idea, both the community and the school district receive benefits.
-In order to attract effective teachers, it may be necessary to provide employment opportunities for the teacher's spouse. This can be accomplished through a joint effort of the community and the school district. Encourage local employment sources to let the school district recruiter know when they have job vacancies. The school district may fill its needs for support personnel through the pool of unemployed spouses.

The development of a quality small school depends directly upon the quality of teachers employed. The administrator and board of education in smaller school districts are primarily responsible for teacher employment. However, the community can provide additional recruitment incentives and should accept some responsibility for a quality educational program. Recruitment must become a joint venture between the community and the school district. The development of a recruiting plan that involves both should be very successful.

Interviewing Strategies

Interviewing prospective applicants is a skill that must be fully developed if quality personnel are to be hired. The plan for interviewing includes selecting the proper person as well as the proper strategies.

A sincerely interested interviewer is an asset that cannot be over-emphasized. This type of person is skilled in active listening techniques and has basic positive feelings for the community for which he is recruiting personnel. Recruits often respond more to individuals and their styles and skills than to their positions or the content they represent.

Interviewing strategies involve selling the district and screening applicants. Recruits will frequently select jobs after considering whom they might feel comfortable working with and receive reinforcement from. Interviewers should provide descriptions of potential informal and formal peer support groups. This is typically a much stronger attraction than verbage concerning available facilities and equipment.

In screening applicants, the interviewer will want to look carefully at the degree to which recruits:

-would be accepting of the rural culture,
-have behaviors appropriate for the environment in which they will be living,
-have generic skills,
-have interest consistent with local lifestyles,
-are interested in gaining knowledge of the local community, its political system, and history,
-the ability to develop local and long distance support systems.

Administrators should employ informal checklists when interviewing persons external to community. It is important that the same data is gathered about each applicant so that valid comparisons can be made. The following questions may be of value in developing the interviewing strategies:

1. Will the interviewee's personal traits and goals be compatible with those in the area?
2. Will the community provide the necessary social opportunities for this applicant?
3. Will the position provide challenge for the applicant?
4. Does the applicant have hobbies or other avocational interests which initiate self-entertainment and self-sufficiency?
5. Is the applicant genuinely interested in learning about the unique aspects of this particular community?
6. Is the applicant flexible enough to cross interdisciplinary lines as required in an area of scarce specialized resources?
7. Will the applicant be able to cooperate with people expressing different viewpoints?

Induction Strategies

An effective induction system contains short term orientation activities an long term personnel support programs. These should be based on a specific set of goals that reflect the needs of new employees and which are consistent with the philosophy of the school district. It should be recognized that the full induction process will take about three years. The following goals are basic to a sound induction plan:

1. Establish communication processes within the school and the district that will make teachers feel welcome and secure.
2. Help teachers become an integral part of the community.
3. See that each employee receives help in adjusting to their work environment.
4. Provide a vehicle for employees to integrate with their colleagues.
5. Facilitate a successful beginning for the school year through an aggressive orientation program.
6. Provide a continuous (year long) orientation program that reinforces these goals throughout the year.

Pre-School/Beginning of the Year Activities

a. Develop an understanding of the community, especially the social, cultural, ethnic and religious make-up.
b. Make visits to institutions such as libraries, museums, recreational facilities, major commercial facilities and other places of interest.
c. Plan and open exchange about community standards, customs and other uniquenesses.

d. Pair beginning teachers with master teachers based on subject taught and/or physical nearness of the teachers. This requires significant preplanning and a thorough knowledge of the characteristics of each teacher. Its major benefit is to provide a continuous communication link. Master teachers who are a part of the buddy system should meet with administrators regularly to exchange experiences and identify general problems that need to be dealt with.
e. Plan a series of sessions to communicate the new schools operating philosophy and uniqueness to new staff members.

Continuous Orientation Activities

A. Plan special inservices to be held throughout the year dealing with topics specifically directed toward beginning teachers. These are planned to dove-tail with the preschool orientation activities.
B. Appoint someone to be responsible for helping the beginning teacher furnish and set up his/her room. There is strong belief that only through this kind of scheduled help can preparing the room be accomplished in a desirable manner. This same person should be a resource for making changes throughout the year.
C. New teachers are supervised so as to accomplish two goals. Regular (weekly, at least) contacts by administrators and supervisors are used to open communication lines and to identify problems as soon as possible. In addition, the barriers to communication between teachers and principals are consciously lowered so teachers will more readily share their true feelings. Through these types of exchanges, the expectations of the school can be more clearly delineated.
D. Formal evaluation of the beginning teacher orientation program is carried on regularly. This process should provide clues to the effectiveness of the program and provide suggestions for improvement. Both an oral discussion and written evaluations should be used.
E. Schedule a session in January for teachers and administrators who are in their first two years in the school. Topics should include any changes since school started, plans for the remainder of the year and a reemphasis of goals. Time should be spent giving feedback about how the staff is doing and for allowing the staff to discuss their problems.
F. Plan a year long series of social activities that allow the staff to get to know each other on a non school basis.

Strategies for Retention

A major problem in smaller schools is maintaining the effective teacher in the school system. In order to accomplish this, school districts need to develop a plan to achieve this goal. The following ideas are practical suggestions for maintaining effective teachers in the smaller schools:

Direct Impact Activities

-The most obvious suggestion is to provide increased salaries for teachers who choose to remain with the school district. Smaller schools must have a commitment from the community for a quality school system if this suggestion is to be implemented. Administrators in smaller schools need to share the problems of recruiting and maintaining effective teachers with the community. If this can be accomplished, quite possibly the community will support increased local funding for teacher salaries and extra duty pay.
-The community school administrator needs to develop a close working relationship with churches, civic organizations, and other community support systems in order to encourage these groups to include teachers in their membership. In some instances community groups in smaller school districts are closed to outsiders (i.e., teachers). If teachers feel they are part of the community, then they are more likely to want to continue their employment.
-Community schools can strive to provide, or encourage the community to provide, recreational opportunities for teachers. This can take the form of transportation to area athletic events, summer softball leagues, fishing, and boating trips. This may include arranging transportation for group travel, for ski trips, sightseeing tours, or possible trips overseas. Members of the community would be welcome to participate in these activities.
-The community school, in conjunction with landowners and lending agencies, could make the purchase of property available to teachers who choose to buy land. If teachers have some ownership in the area, they are more likely to become a permanent citizen of the area.

Long Range Growth Activities

Placing effective teachers in leadership positions has several advantages. Leadership positions contribute to professional growth, as well as personal growth. Teachers see the rewards of more autonomy, more freedom, and growth of their knowledge as being as important as increased pay. The prestige of position usually translate to community prestige thereby doubling the effect. Some strategies that districts are now using include the following:

-Initiating intra- or inter-district, temporary faculty exchange programs.
-Establishing inservice incentive systems including release time, college credit, and certificate renewal.
-Providing special challenges or assignments, particularly when affiliated with pre- or in-service programs.
-Establishing merit increases or other approaches to recognize extra-ordinary performance.
-Initiating stress reduction activities ranging from desensitization to "venting," social functions, and physiological stress reduction exercises; and establishing local support systems for continuous stress reduction.

Motivational Strategies

The following "creative" retention strategies may serve as motivators for teachers and administrators as they consider their professional future:

-Paying professional organization dues
-Locating adequate housing
-Arranging social functions
-Sending indigenous persons to college and paying tuition
-Establishing school board support
-Creating higher than usual salary supplements
-Creating intellectual stimulation
-Making professional literature available

The smaller school district, in concert with the community, can influence educational quality by actively seeking and retaining effective teachers. Basic to this process is a commitment from the school and the community to provide sufficient resources, especially time and money, to successfully carry out the program. Lack of this commitment usually dooms the project. Once the commitment is made, the venture is limited only by the creativity of the district and its patrons. This monograph should provide the seeds to allow creative imagination to grow and prosper, culminating in significant improvements in the teaching and learning process of the district's schools.

CREATIVE TEACHING IN A RURAL ENVIRONMENT

by

Elnora A. Old Coyote

INTRODUCTION

It was autumn and Mr. Real Bird took his class of five year olds outside, because it was one of those beautiful gold and blue days poets write about. The leaves on on the cottonwood trees and chokecherry bushes were no longer green; they were yellow and orange and red--and they were floating down, falling. After the children ran and played games, Mr. Real Bird asked them to fall down on the ground and look around and see what they could see. They mentioned clouds, and a dog that went by, and the breeze in their hair. If they talked to him in the Crow Indian language, he answered in Crow; if in English, he answered in English. Then he said, "Look! The leaves are falling off the trees! Why do you think the leaves are falling off the trees?"

One child said, "The wind is blowing them off."

Another said, "It frosted, and so the leaves fall down."

Another said, "Their hands are cold and they can't hang on any longer. So they fall."

Another said, "That's the way God made leaves. They fall."

Another said, "Somebody, maybe a spirit, is shaking the tree, so they all fall down."

And he praised each answer, then he repeated what each had said and went on, "Now let's choose the answer we think is a good one."

And they did, just as Piaget would have predicted. What was their unanimous choice? Their hands are cold and they can't hang on any longer. The children were pleased and the teacher was pleased and he related his lesson to other teachers later, and someone said, "You mean you left those children believing leaves have hands?"

He tried to explain that the children had made observations, has expressed a set of hypotheses, and chosen one as their conclusion, just like real scientists. "And besides," he continued, "when they are fifteen years old, they'll make new observations and they won't still believe leaves have hands."

And I, a science teacher, thought it was a good science lesson, a process approach, and a good language lesson, using two languages in fact, very fitting for the children's cognitive level of development (prelogical) (Piaget), appealing to a creative learning style and a creative teaching style (Gregorc).

The teacher and the children wrote a story about the leaves, illustrated their story, and hung it on the wall for reading someday--in both languages. They gathered leaves, matched leaves, classified leaves, ordered and seriated leaves according to one attribute--size--pretty well; and according to two attributes--size and color--not so well, but just as five year olds will. They counted leaves, smelled leaves, chewed leaves, felt leaves, looked at leaves, and listened as they walked through leaves. And they spatter painted a card to invite their parents to the first PTA meeting.

NEW EDUCATIONAL EMPHASES IN AN OLD ENVIRONMENT

My topic might fall under improving curriculum and instruction. It is intended to be, though, a medium of creative teaching for the development of the creative and problem solving potential of rural children. It features using their environmental milieu as background experience, as learning media, and as a place for practice, transfer of knowledge and skills, and use. Perhaps my task task is done, and I have but to formalize the examples my teacher set into the educational framework and jargon (technical language).

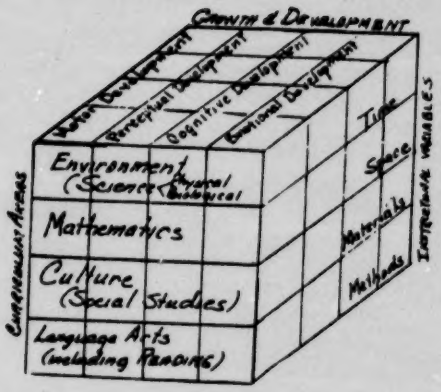
New emphases on learning styles, brain hemispheres, and computers are beginning to explode into many areas, particularly into schools with a larger economy base, but not yet into most rural scenes. A foundation needs to be prepared for the events, an opening up of attitudes and mind set toward new learning and teaching ways, a broadened base in practice, onto which new ideas and the use of new machinery may productively fall.

In rural and small town schools in Montana, populations of Indian and non-Indian children with one or more languages or dialects and one or more cultural backgrounds, have not been able to achieve educationally on par with monolingual white children in larger towns and cities. I believe this condition exists also in other states with rural, small town, agrarian populations, some of whom speak a language other than English or a rural dialect.

I would like to explore the accommodation of teaching methods to environment, to historical event and cultural antecedent in the rural scene, to explore a concept of creative teaching and its extension or to inclusion of the new emphases on learning and teaching. I would like to explore a creative teaching model to bring rural children to a level of competency on par with other children.

A 3-Dimensional Educational Model

Education must concern itself with three major dimensions: (1) child growth and development, (2) the educational program or curriculum, and (3) teaching strategies. Following is a diagrammatic representation of a 3-dimensional model relating these to each other and forming a basis from which teacher and children can adventure forth into any environment with any language(s) creatively.



First let me explain my model. (1) Parameter 1.--Child Growth and Development. It may be said that children grow and develop in many areas, of which I've identified/labelled four--motor development, perceptual development, cognitive development, emotional (affective)-social development. Teachers need to know the growth and development characteristics of children at each age (or stage, or phase). Because Parameter 2--The Curriculum--constitutes the instructional areas of the educational program through which teachers present information, help children practice skills to bring about growth and development. The instructional areas, of which I've identified/labelled four, Language Arts (including reading), Culture (Social Studies), mathematics, and Science (environment), each consists of a body of attitudes, skills, and knowledge believed by educators to be expectations for children. Teachers need to know the skill and knowledge expectations in each curriculum area.

Parameter 3, the Instructional Parameter (Teaching) is made up of those variables which are managed by the teachers to bring children in contact with the curriculum, hopefully in a way so children grow, develop, and learn optimally. The variables include a time, a place, materials, and methods for working with children, all of which can change dependent upon environment.

Growth and development characteristics, though individual to each child, are general for a population. Even in our assessments of many different children, majority children and minority children, country children and city children, of different ethnic groups, do not show wide differences in growth and development. However this is the area in which new ideas regarding learning styles are highlighting our awareness.

NEW EDUCATIONAL EMPHASES

Children's perceptual learning modality preference may be kinesthetic or psychomotor, visual or spatial, auditory or verbal (Sperry). Children's cognitive learning styles vary. One classification according to Gregorc includes concrete sequential, concrete random, abstract sequential, abstract random. Children may vary in affective styles (Ball) and in attention styles (Dunn and Dunn).

Perhaps the sensitive teachers have always known of these differences, but most of our strategies for taking learning styles into account have themselves been random, not very systematically applied and certainly not well documented, hence not evaluated. Having a more formalized system, such as Gregorc's makes it possible for the teacher to try varying teaching styles to fit learning styles in a more systematic way and to give us better information leading to a more successful outcome, hopefully.

The curricular parameter includes the instructional areas considered important in the education of our children, the necessary skills, concepts and attitudes to be developed in each.

The first and second parameters may be thought of as essentially fixed. The third parameter, the instructional one, is the one manipulated by the teacher. The teacher chooses the place an activity will occur, what time and how much, what materials will be available to the child, and the strategy most productive in getting children to grow, develop and learn.

NEW EDUCATION AND A RURAL ENVIRONMENT

The usefulness of my model is that if we have a child or a group of children at some age and we are teaching a concept, skill or attitude in one of the recognized curricular areas, and the place is a rural environment, we can put together a fitting activity making use of that environment. Why that environment? Because it is familiar to the child; hence, it is a known entity onto which the new learning can fall so the child has an enhanced chance to understand initially, and to which he can return for extra meaningful drill and practice or use later.

An example might be as follows: The teacher has a class of three five year olds--two boys and one girl--and the activity is seriation in the mathematics curriculum. Knowing that the five year old can seriate objects using one attribute, using Ponderosa pine cones, the teacher asks the children to line up a group of cones from the shortest one to the tallest one. Later on, when six to seven years of age, the children can use the same cones to seriate in terms of two attributes, tallness and fatness. I would predict children who are more creative-random can use many objects to classify, seriate, measure. Children who are more concrete-systematic may also need neatly manufactured blocks purchasable from a school supply company. The Lavatelli Science Kits for young children features red, blue, and yellow spheres and cubes to classify according to two attributes, color and shape. How about using cherry leaves, cottonwood leaves, and raspberry leaves--or wheat, oats, and barley seeds--or corn, peas and beans?

BEST COPY AVAILABLE

One learning behavior teacher had a class of college students working on an intricate wiring system to activate a learning machine.

Finally one of the students said, "It's just like an underground spring (water) back home. The creek starts in the south forty, goes underground and travels here and there and comes up over in the north forty."

All of the students were rural students who understood and could relate a circuit to an underground water system.

Any environment, not just a rural one, has potential within the child's everyday experience, familiar to him for learning the concepts we teach. Teachers need but to be familiar with child growth and development characteristics, including learning styles, and with the skills, attitudes, and concepts of the curriculum. The creative, open-minded teacher looks around and finds the time, place, and materials at hand that can be used to demonstrate the concept within the children's familiar environment initially and which can be used for drill and practice later. Why can't a child use beans for learning to add and subtract? Adults use beans for bingo!

NEW EDUCATION AND AN OLD CULTURE WITH ITS LANGUAGE

Even as the open-minded, creative teacher can look around and find materials from the child's environment to use in teaching and curricular concept and/or skill, so can that teacher search out cultural antecedents to which new concepts and present cultural practices can be related, and to which the child may return for drill and practice or an extension of the concept or skill to real life situations. If the teacher knows the language or dialect of the parent culture, the teacher can also enhance or even make possible the child's understanding by bringing the concept within the child's reach through familiar language and move outward or onward to the new language. As an example, the teacher may be dealing with the phonomenon of what is blue and knows that in the child's home language the name word for blue is the same as for green (shua). In the child's cultural, environmental experiences it may be that when one wishes to designate which blue, one says shua like the sky or shua like the grass. The teacher then has some information to help straighten out possible confusion on the part of the child. The transition to English will require an extra teaching step or two.

THE NEWEST MEDIUM

We have a new medium, the computer, the Apple, and old programs are being adapted for its use, but it also opens the way to develop new programs. This is another chance to look around and build a program to fit children in an environment familiar and interesting to them. As teachers, we have a chance again to get in on the ground basis, reassess our programs and get involved in writing some new ones--for the Apple.

THE LAST NOTE

A teacher can go into any area and impose the a priori curriculum, thusly ignoring the antelope, the wild goose squadron--the rare, rich, and unique potential of the rural environment--or make it a valid part of the curriculum--and program it for the computer.

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CURRICULUM DEVELOPMENT AT PRETTY EAGLE SCHOOL: SOME SUCCESS AND SOME PROBLEMS

by

Henry N. Worrest

The Pretty Eagle School is a private school situated on the Crow Indian Reservation, which is located in southeastern Montana. The school serves approximately 100 students, most of whom are Indians, in grades pre-kindergarten through eight. During the period of this curriculum development process, the professional staff of the school consisted of one administrator, eight teachers and one librarian.

In the fall of 1980, a new administrator--just out of graduate study--was hired for the Pretty Eagle School. The administrator, Robert McLean, knew that the school had some problems. In his contract talks with the Pretty Eagle School Board, he negotiated an agreement that established performance objectives for himself and agreement that the board would support his efforts to hold teachers accountable through the establishment of a procedure to develop some control of teachers' performance. In very short order, the new administrator discovered that the curriculum was in disarray. Textbooks, where they were available, were hand-me-downs from other schools, surplus from publishers or a variety of out-of-date left-overs from previous years. Teachers taught what they thought was appropriate for the grade level, usually without consulting other teachers--which probably would not have done much good anyway because of the high rate of teacher turnover.

The administrator was able to acquire some funding from both federal and private resources which enabled him to put together a rather comprehensive program of curriculum and staff development. A contract was drawn up between the Pretty Eagle School and Montana State University which initially called for the delivery of some coursework for staff development.

The first step in the implementation of the program was to offer a graduate level course: Planned Change--Organization and Theory. The teachers enrolled in the course met Friday evening and Saturday morning over a period of about eight weeks. Although the course content was important, an equally pressing concern was to have the faculty talk about change, in an effort to unfreeze the organization.

One example of the success of unfreezing was the formation of a faculty council. The administrator was interested in establishing some sort of representative group that could sit down and air problems and concerns. During a class discussion of conflict resolution, some members of the faculty expressed a concern about presenting their innermost concerns about the operation of the school to the administrator. The suggestion was made that perhaps a representative group that met periodically could be just the answer, for in a representative group a member could bring up a concern while maintaining the anonymity of the complainant. Within the week, steps were taken to organize a faculty council.

During class discussions, people who worked together had an opportunity to ask questions, engage in discussions and participate in a variety of group activities. Since all of the class members were from the same school, they had some common knowledge, but it was also recognized that they had different perceptions about the school. This situation made class sessions much more enjoyable, since the course content could focus on problems and concerns that were real and about which all the class members had some information.

One problem faced by the school concerned the fact that the pupils who graduated from the Pretty Eagle school continued their education in as many as four different high schools. The teachers expressed concern of a lack of knowledge of the expectations that were held by the teachers in those four different schools for the pupils that were entering their classes. A variety of strategies were discussed to determine what could be done to ascertain the entering expectations of the four schools. The teachers decided that probably more benefit would come from an analysis of their own curriculum. Subsequent development would allow it to meet expectations, which they determined, to provide the best educational experience possible for their students.

This decision of the teachers, and their commitment to enter into another activity, was exactly in line with what was desired. The first course had unfrozen the organization and led to a commitment to pursue curriculum development activities. It established teacher ownership of an effort to improve the instructional program of the Pretty Eagle School.

The second activity in the Pretty Eagle School curriculum development process was to negotiate for another course. The purpose of this course was to deal with methodology and curriculum development, which included activities as curriculum mapping, scope and sequence, discussion about student needs and mastery learning, objectives writing, etc.

To start the group off, a curriculum mapping activity was carried out. The teachers identified major topics within a subject area and, using a flowing out process, divided the major topics into subtopics.

Using language arts as an illustrative example, the teachers looked for gaps and overlaps. While doing this, a discussion was held on the concepts of introducing, maintaining, developing and mastering subject matter. From the mapping of "what is" in the curriculum, the teachers then made some decisions about what the curriculum should be and, using a form developed for the PRIMES (an acronym for Pennsylvania Retrieval of Information for Mathematics Education Systems) project, the teachers listed the complete set of subject topics. They then identified grade level responsibilities for the topic area--introduce, develop, maintain and master. Teachers used these concepts and practiced their application to other subject areas.

After looking at the developmental process, the teachers next took up the topic of performance objectives and started writing simple objectives for some of the material previously developed, practicing in a subject area of their own choice.

The curriculum study activities continued until the close of school in May.

During the summer months, the faculty was encouraged to participate in a variety of education activities--regular and special on-campus courses or special off-campus courses--which were presented

in Hardin, Montana for the benefit of school personnel teaching Indian children. To assist the teachers' participation, stipends were provided. Six of the eight teachers actually did attend some program during the summer months.

During the summer, funding was obtained and a new contract was negotiated for the 1981-82 school year.

When the teachers met in the fall, they were informed that the curriculum development project would continue. It was suggested to the teachers that, as they did their unit and daily plans, by giving just a little extra effort, they could develop a nice set of performance objectives that could then be applied to a curriculum guide.

During the second year of the project, a small group of specialists was provided to assist the Pretty Eagle teachers in specific areas. One specialist was in the area of testing. It was the responsibility of the testing specialist to assist the teachers in writing test items for both formative and summative evaluations. Other specialists were provided in science, mathematics and language arts. The subject area specialists assisted the teachers in developing instructional topics for each grade level, performance objectives for each topic and evaluation procedures.

The logistics for supplying the specialists consisted of flying the testing specialist to the site for several meetings with the entire faculty and of driving all the subject specialists to the site for meetings with small sub-groups of the faculty. In all cases, the meetings took place on school time consisting of the teachers' entire work day after the lunch period. During the work period with the subject specialists, many questions were answered, several philosophical problems were considered and much progress was made in the development of the final product.

By the end of the school year, the teachers produced the rough draft of their curriculum document.

During the summer of 1982, the rough draft was edited and, using word processing equipment, a clean draft was provided. After some additional minor editing, another draft was prepared; however, this draft was provided in a format that could be used by the teachers. One problem with the "final" draft, the one currently under revision, in its size. Therefore, the project for the current year is to trim the curriculum guide down to usable size and to put it into a usable format.

The Pretty Eagle School, for the current school year, has hired a curriculum director, and the responsibility for revising the curriculum guide falls on her shoulders. Also, consistent with the recent history of the Pretty Eagle School, there is a new principal. Once again, the faculty must adjust to new leadership; and the question to be answered is, "Will the process of curriculum development be continued or will the time and effort expended by the faculty over the past two years have been spent in vain?"

QUALITY vs. EFFECTIVENESS IN PLANNING STRATEGIES EMPLOYED BY SOUTH DAKOTA SCHOOL DISTRICTS FOR DEALING WITH DECLINING ENROLLMENTS

by

Thomas Moriarty

Most communities in South Dakota are experiencing declining enrollments in their school population. Evidence of this condition is reflected in school closings, district consolidations, staff reductions, and reduced curricular offerings. As management options are introduced to cope with these problems there is little evidence to assess either the quality or the efficiency of these strategies. Thus the purpose of this paper is to discuss the perceptions of South Dakota school administrators between quality and efficiency factors in selecting options to deal with enrollment decline and increasing costs.

In that the data are confined to school districts in South Dakota, some descriptors of the Dakota scene may be relevant to the reader. South Dakota ranks as the 16th largest state in the nation in terms of land area, with a sparsity factor of six people per square mile. During the past ten years, public school enrollments have declined 27%. Costs have increased over 300%. Fifty per cent of the 185 school districts enroll fewer than 100 pupils in high school. Two-thirds of the population reside in rural areas. Eighty-six per cent of the people are employed in agriculture or in related industries.

In order to address the nature of educational changes taking place in the the 185 school districts in South Dakota with respect to enrollment decline, a survey was conducted. The survey was done in cooperation with Robert Gednalske, a graduate student at the University of South Dakota. The survey was directed toward those strategies being employed by school districts to cope with enrollment decline in the following management areas: (1) educational organization, (2) program development, (3) resource utilization, (4) staff utilization, and (5) educational governance. Sixty-one options were considered in the above five categories. (See Appendix A)

Respondents were asked to indicate if the options employed resulted in increased educational effectiveness (quality). A response was also requested in regard to the degree expenditures were either increased or decreased upon introduction of the options (efficiency). Response was obtained from 75% (140 out of 185) of the school administrators in South Dakota.

In the initial study, Gednalske identified 19 strategies being employed by 25% or more of the school districts. (See Appendix A). This paper draws upon the same data set collected for the Gednalske study to identify strategies and frequencies of options to cope with enrollment decline. However, in the secondary analysis of data, statistical procedures were employed to determine the significance of the perceived differences between quality and efficiency of the management options employed by school districts. With this perspective, the data were organized for analysis to reflect the difference in responses by school administrators between Quality and Efficiency in relation to the options employed to deal with enrollment decline.

Initially it was assumed that the real relationship between cost and quality would be "0". For example, if the respondent ranked quality as high, effectiveness or efficiency would be marked equally high. A negative difference between these two ratings would reflect that respondents judged the option to represent quality at the expense of efficiency. A positive difference between the two ratings would reflect that respondents judged the option to represent efficiency at the expense of quality.

Efficiency

Based upon this analysis, three options perceived by school administrators which represent major emphasis upon efficiency were established as significant:

Reduction in force
Cross district sharing of teachers in Special Education
Reduction in programs

Factors related to efficiency appear to be intended to reduce educational services to the extent necessary to maintain the system. They represent an effort to deal with difficulties by following procedures that maintain a minimum core of educational experiences to insure an on-going program. These perceptions view leadership responsibility as maintaining a smooth, efficiently running organization in which system continuity is safeguarded. This is not intended to suggest that these practices are undesirable. Continuity is essential to any enterprise. It does suggest, however, that options directed toward efficiency are initiated to maintain survival by reducing educational services rather than introducing new processes or entering into new relationships to maintain educational programs at or above current levels. In the main, these options reflect decisions internal to the system.

Quality

Seven options perceived by school administrators which represent major emphasis upon quality were established as significant:

Regional units for Special Education
Involving teachers in decision making
Emphasis upon Long Range Planning
Use of more advisory groups

Personalized education plans
Computer instruction
TV Instruction

In each of these options, school districts expanded their frame of reference either in terms of decision making (people) or delivery systems (technology) to either maintain or improve current educational programs.

Quality factors appear to reflect a departure from traditional practices. They are designed to change rather than maintain the arena in which educational decisions are made. In addition, the change appears closely associated with the demands for greater participation in decision making in the broader social arena. In the main they represent a restructuring of relationships and orientation toward current processes. Survival concerns in the quality arena are perceived in a different context than those where efficiency is a primary concern. Options which were perceived as quality measures reflect a process of confronting changes needed to make the educational program more viable by adapting to new conditions as a matter of problem solving to enhance the educational organization, rather than just attempting to insure its survival.

Summary

The analysis of the perceived differences by school administrators between quality and efficiency in selecting use of management options reflect tractive and dynamic functions. The analysis revealed that options perceived to result in efficiency were generally related to concerns for maintaining the system on a decreasing scale through gradual deletion of existing resources (tractive). The options suggest decisions made on a yearly basis, when the annual enrollment rosters are complete, resulting in "short term" patchwork to hold the school together for another year. Options perceived as quality measures take on a more dynamic perspective through disrupting existing practices and substituting others in order to become more viable by adapting to new conditions. These change processes involve broadening the decision making base, restructuring relationships, long range planning and the introduction of technology. These options reflect an effort toward organizational renewal which attempts to interface with the broader community to adapt to problems which strengthen educational programs and leads to greater organizational maturity.

In the process, forces leading toward change are in conflict with those promoting continuity of existing programs. The need is to bring these two forces into equilibrium. The ideal, or equilibrium, would be reached when quality is perceived high and efficiency is also perceived as high. In the study, it appears that this ideal is most likely to occur when educational leaders perceive current problems as opportunities for educational renewal through broadening the base of input for decision making, through new relationships (staff, citizens, and students), and through expended use of technologically based delivery systems (television and computers). Survival is a major concern to many school districts. However, if these school districts are to succeed in these efforts, the data suggest that their changes for survival rests with management options which are dynamic in nature, which seeks broader bases for decision making and delivery of services, and which view the current crisis as an opportunity for renewal. Such organizations need leaders who re-examine the objectives of education on behalf of their constituency and help them to propose solutions, rather than treat the daily symptoms of the crisis.

In comparing options perceived as efficient in contrast to effective is reminiscent of the story of the traveler who asked the clerk for a compass. The clerk responded that the store carried compasses for drawing circles, but not for going places. The educational system can ill afford such a limited inventory.

APPENDIX A

MANAGEMENT AREAS AND SUGGESTED OPTIONS FOR DEALING
WITH INCREASING COSTS AND DECLINING ENROLLMENTS

(Robert Gednalske Study -- 1982)

EDUCATIONAL ORGANIZATION

- Mobile Units
- Shortened Week
- Concentration Scheduling Plan
- *Alternating Year Curriculum
- *Multi-Age Grouping
- Community Center for Social Problems
- Blocked Time
- Family Delivered Education
- *Contract for Services
- Cross Age Ability Grouping
- Subject Centered Learning Area
- Organized Space for Individual Work

PROGRAM DEVELOPMENT

- Individualized Learning Packages
- *Personal Education Plans
- *Use of Television Instruction
- *Use of Computer Instruction
- Use of Radio Instruction
- *Use of Community Resource People
- Vocational Training in the Community
- Interdisciplinary Focus
- Cross Age Teaching
- Use of Community Talent Bank
- Use of Natural Environment
- Mini-Courses
- *Reduction in Programs

INSTRUCTIONAL RESOURCE UTILIZATION

- Family Delivered Education
- Community People as Teaching Assistants
- Traveling Resources
- Inter-District Subject Area Departments
- Conference Calls with Resource People
- Technology Packages with Teacher Assistance
- Selling Services to Other Districts
- *Contracting for Services
- Formation of Regional Service Units for Subject Areas
- *Formation of Regional Service Units for Special Education
- Formation of Region Service Units for Materials
- Formation of Regional Service for Technology
- Rental Space to Other Agencies

STAFF UTILIZATION

- Part-Time Teachers
- Early Retirement Incentives
- *Reduction in Force
- Reduction in Preparations
- *Multi-Disciplinary Assignments
- Reduce Contract Time with Inservice Work
- Community Resources for Teaching Responsibilities
- Teams and Work Groups
- Emphasize Advantages of Small Size
- *Cross District Sharing of Teachers in Special Education
- Cross District Sharing in Subject Areas
- *Doubling Elementary Classrooms

EDUCATIONAL GOVERNACE

- *Use of More Advisory Groups
- Expanded Community Education
- Forums on School Improvement
- Partnership Agreement with Communities
- Extended Use of Personnel in Higher Education
- Extended Use of DESE Services
- *Increased Use of Media for Communication
- Increased Use of Student Input
- *Greater Involvement of Teachers in Decision-Making
- *Increased Citizen Participation in Decision-Making
- *Greater Emphasis upon Long-Range Planning
- Tuitioning Students to Other Schools
- Set Into Motion Plans for Consolidation

*Initiated in 25% or more of the school districts responding.

TEACHER EDUCATION FOR SMALL SCHOOLS: THE WESTERN MONTANA COLLEGE MODEL

by

Alan G. Zetler

The Problem

Teacher education in the United States pivots around an urban assumption. Groups of pupils sized according to a typical classroom unit are separated into grade level with all students in the room receiving the same instruction. In later high school years, the classes are discrete subjects with enrollments roughly equal to the number of chairs appropriate for a 30 by 30 room. Teachers in preparation are exposed to college instruction which is consistent with the standard image. This approach is justified if the eventual assignment territory fits the mat studied in college.

But what about the teacher contracted by a small rural school district? A period of reality shock is the first rude awakening to the professional and personal rural environment. The assumptions used to visualize the future suddenly do not mesh with the rural condition. There is an immediate need to replace urban expectations with new ones created by geographic and social isolation. The change must be rapid as there is no alternate teacher down the all to which the school can turn. Coupled with the trauma of social deprivation, those who cannot adjust often resign by the Christmas holidays.

Rural teachers are quick to state that their college education did not prepare them for small school assignments. That criticism is too broad. Subject matter preparation is usually adequate. Learning theory is applicable to the countryside as well as to the city. But new rural teachers are lacking in special skills, the absence of which might never be noticed in the urban classroom. Those skills are (a) the ability to compensate for the lack of resources, (b) the ability to take advantage of smallness, utilizing techniques that would be impractical in large schools, and (c) the willingness and capacity to dove-tail one's personal lifestyle into the unique culture of any given locality. The necessity for these three skills is directly proportional to the degree of ruralness--the smaller and more remote the community, the greater the need.

Rural Education in Montana

The state of Montana has some of the nation's extremes in rural isolation and population sparsity. East-west distance across the state is equal to that from Washington, D.C. to Chicago. Less than 800,000 population translates to a density of only 5.3 persons per square mile. School consolidation is limited by sheer distance from home to school. Athletic trips can cover over 300 miles one way, a condition generated by the necessity to find seven comparable schools required for a league.

Vast spaces with few people have resulted in school enrollments which are tiny by most standards. Montana has 170 high schools of which 75 contain 100 or fewer pupils in grades 9-12 combined. There is an elementary school operated with each of the small high schools. Even smaller are the 66 K-8 elementary, independent districts employing two or three teachers in the building. One-teacher "country" schools are more numerous, totaling 110 as of 1982. Collectively, these small elementary and high schools comprise 41 percent of the state's public schools.

It is this context for which the rural teacher in Montana needs to be prepared. Professional functioning is not the exclusive need. Rural communities have locally defined expectations and a common lack of social services thought essential by the city dweller. Medical, dental and shopping facilities often are nonexistent. The single teacher looking for a mate is advised to make that arrangement before moving to town. Teachers must learn to live with this "social cost of space," a term coined by the late rural sociologist, Carl Kraenzel.

The Rural Education Option at Western Montana College

After six years of accelerating effort, Western Montana College has a catalog option in "Rural Education" available to both elementary and secondary majors. The option has as its purpose the preparation of teachers who will be able to function both professionally and socially in the sparsity context described. Planning for the option caused some redirection in the traditional program as well with the result that all teacher education at the college has undergone significant change.

The Montana University System Regents designated Western as the rural education center in 1980. Direct service to teachers and pupils in small schools is the center's primary duty. A full-time field coordinator travels 35,000 miles annually taking help to the individual districts. Contacts made through center activities plus other input provided the basis for designing the rural option. Curriculum decisions and staffing moved quickly, an advantage possible in small colleges.

What are the substantiative differences between the rural option and traditional programs to which most teachers are accustomed?

1. Psychology is the established behavioral basis undergirding teacher education. However, understanding human behavior in tiny rural agricultural communities is best accomplished through the study of anthropology. Therefore, the two disciplines are both prerequisites.
2. Early field experience is a component of many programs. This is also true of rural education but with an essential difference. Students are not usually trained how to conduct effective field observations. They often miss seeing important practices. At Western, field observation techniques of applied anthropology are taught as skill increments. This process makes the student's observation time increasingly more efficient as well as providing a usable skill that can be later taken to a rural community.

3. Rural teaching demands the use of instructional methods that can compensate for resource deficiencies and capitalize on the advantage of small size. Option students receive special classroom management and instruction strategies in addition to general methods courses.
4. Living in a rural community must be approached openly because each town defines its own norms. Expanding on the observation skills learned during the early field experience, rural option students conduct ethnographies of rural places and schools. This is accomplished concurrent with student teaching which, of course, is a rural assignment. The process enables a teacher to enter a rural community with adaptive competencies needed to cope with high visibility.
5. Future teachers are not always placed in the hands of those who know the realities of the market place. That problem is addressed in the rural option by two additional responsibilities assumed by education department faculty. First, selected faculty and administrators who have current knowledge of rural schools act as rural education advisors. This help is in addition to the normal academic advisor. Second, the department monitors an array of student characteristics essential for successful rural teaching and living. Assessment starts at the freshman year in the reality oriented "Introduction to Education" course. Files are established on each student enrolled and become evidence in the formal Teacher Education Program entry process for which students apply as second semester sophomores. Monitoring results in a prescription for professional growth. Extracurricular talents, avocational interests, personal habits and demonstrated initiative are among the qualities monitored.
6. Secondary students are required to pursue a major/minor combination. Single field preparation is unwise in a state where the median enrollment for all high schools, urban and rural, is only 120 pupils.

Some elements of the rural option have been incorporated into the curriculum for all teacher candidates, i.e., anthropology and early field experience. This sensitizes all new teachers to the unique problems of small school teaching. Those pursuing the incremental option will best be in a position to steer that sensitivity into successful rural teaching and living.

A COST ANALYSIS PROCESS FOR RURAL SCHOOLS

by

William E. Sparkman

"How much does it cost to operate this school?" This question often is asked by the lay public, school board members, and professional educators alike. In many cases it is difficult to respond adequately to the question since traditional accounting systems track funds according to function rather than to programs or attendance centers. Even program accounting conventions seldom use sufficient detail to provide readily accessible cost information. Nevertheless, it is important that operating cost data be developed and used for informational and planning purposes.

A cost analysis involves the breaking down of the operating costs of the school district and the allocation of those costs to the appropriate unit of analysis. The unit of analysis could be the set of education programs offered in the district or the individual school attendance centers. Once the functional costs have been allocated to the education programs or the individual schools, the costs can be totaled to provide the operating cost of the appropriate unit. Per pupil costs are easily determined by dividing the cost figures by the number of pupils associated with the program or building.

The information provided by a cost analysis process can be used to compare the operating costs of the various programs in a district or the costs of operating the various school buildings. Such cost data can be used with a variety of other information when school boards must make decisions about whether to continue certain programs or whether to close or consolidate school buildings. In addition, cost data can be used with output data to determine the cost-effectiveness of various programs.

The Nature of Cost Analyses

Before the procedures of a cost analysis are presented, it is important for the user to be aware of the nature of cost analyses. A cost analysis does not provide exact cost figures for any given unit of analysis. The cost figures represent reasonable and best estimates derived from budget and expenditure information obtained in the school district. It is estimated that 80-95 percent of a district's total budget can be isolated according to the selected unit of analysis. The percent of the budget unaccounted for by the cost analysis may represent funds deemed outside the scope of the analysis. Part of the differences also can be attributed to the fact that actual expenditures often are less than the budgeted amount for a given line item. Finally, small differences may result from the computations used.

A cost analysis focuses on the input of schools as measured by dollars. Obviously, a number of other inputs affect the educational process. Family background, school climate, the quality of the teaching force, the leadership of the school principals all combine to have an important impact on the success of schooling. In addition, there is no consideration given to the outputs of the educational process; for example, the amount and quality of learning, socializing skills, citizenship, and the variety of other things education purports to accomplish. Much more sophisticated quantitative measures such as cost effectiveness procedures would have to be employed to determine the linkage between the multiple inputs and outputs of the educational processes. Such research is underway in many institutions. With the advent of microcomputers it is possible that within a few years such information could be available to local policymakers and the public.

The explanation of cost variations is a critical element of cost analyses. Factors such as the scope and depth of programs, pupil-teacher ratios, scale economies, and local sociopolitical characteristics must be considered when evaluating the findings of a cost analysis. Cost analysis data are only part of the information policymakers need when considering educational questions.

The issues raised here are not intended to demean the usefulness of cost analysis procedures. They were raised to clarify the nature and essential characteristics of this modern planning tool. By understanding these issues, policymakers can make more informative evaluations and decisions about important school questions.

Methodology

The first step in a cost analysis process is to determine the unit of analysis that will serve the intended purpose. If you are interested in learning how much the particular set of education programs cost in your district, then the appropriate unit of analysis would be the program. On the other hand, if you wanted to know the per pupil cost in the various schools in your district, then the attendance center would be the accepted unit of analysis. The appropriate unit of analysis will be determined by the specific information you desire.

The cost per pupil by attendance center generally has been the interest among rural school districts because of the number of small schools that exist and the increasing cost of education. When rural school districts must face the painful issue of evaluating a possible school closing, cost analysis data can be an important source of information to be used with other educational data for decision making purposes.

The next step is to determine the various components of operating cost. Handbook II, Revised (1973) defined operating cost as direct cost, plus indirect cost, plus use cost of buildings and equipment of all programs or activities for the current fiscal year. Direct costs are those elements of cost that can be attributed directly to the unit of analysis. Instructional salaries and benefits are examples of direct cost. Indirect costs are those costs necessary for the provision of a service but cannot be identified directly with the unit of analysis such as insurance or central administration. Use cost of buildings and equipment refers to the annual rate by which the cost of using school facilities and equipment may be allocated to the total operation of the district's programs. Of the three elements of cost, use cost is the most difficult to determine because few school districts

maintain depreciation schedules or fixed asset accounts that are required to develop use cost information.

There are many methods for allocating costs. The required local budget format and the selected unit of analysis will influence both the basic elements of operating costs and the allocation methods used to distribute the costs. Handbook II, Revised (1973) suggested that the most common allocation methods have a basis in: (1) time; (2) average daily membership or pupils enrolled; (3) time space; (4) time consumption; (5) number of pupils; (6) mileage; (7) units consumed; (8) employees; (9) number of transactions; or (10) dollars. Any method of allocation can be used that will provide a rational and fair allocation of cost. Local adaptions may have to be made for certain costs that cannot be allocated rationally by any of the suggested methods. In selecting one method over another, you should consider the additional effort required to achieve a greater degree of accuracy (Handbook II, Revised 1973). Table I shows the cost allocation bases for a functional budget where the attendance center is the unit of analysis.

Identification and collection of cost data is the next step in the process. Local school district records should contain all the information needed to conduct a cost analysis. If the information is not available, it should be developed for future use. The basic information that you must have includes the number and salaries of personnel and their tenths-time assignment. Salaries and benefits constitute the single largest portion of the school district's budget and are the primary determinant of unit costs. You also must have the number of full-time pupils enrolled in the various programs and school buildings. The enrollment figures will be used to allocate some of the indirect costs as well as the basis by which the per pupil operating costs are determined and compared. Other costs include such things as instructional supplies, salaries of substitute teachers, other instructional expenses, maintenance and operation, attendance and health services, fixed charges, student activities, transportation, food service, and central administration. All aspects of the district's budget must be considered for the process to yield the most accurate cost analysis data.

In addition to the budget and expenditure data, you will need a variety of other information including the area of the school buildings and classrooms, the number of students eating in the schools' lunchrooms, the number of students riding regular school bus routes, the salaries and benefits of classified personnel and their assignments, activity mileage, and other relevant information.

In determining use cost, a capital assets and depreciation schedule must be maintained. This is done as memorandum accounting rather than in the regular accounts. Some states require fixed asset accounting so the cost data may be more readily available. If your district does not use a fixed asset accounting system, then you will need to develop certain information that can be used to determine use cost including the original cost of the building, date occupied, life expectancy of the facility, date of renovation(s), and the cost of the renovation(s). Handbook II, Revised (1973) contains a formula to determine depreciation costs, taking into consideration the extended life and value resulting from building remodeling.

Because of the difficulty you may encounter in gathering the data for determining use cost, you could eliminate it from consideration as a current operating cost. If you choose to disregard use cost, you will understate the actual operating cost of the education programs or school buildings. Again, you will have to balance the time and effort to gather the data with the degree of accuracy you desire from the cost analysis.

Application of a Cost Analysis Process

A rural school board in a midwestern state operated two high schools, each located in separate communities about 15 miles apart. Faced with ever increasing costs and the prospect of major capital improvements at one of the high schools, the school board contracted with the state university's college of education for a facility study. A component of that study included a cost analysis to determine the current operating costs per pupil among the seven schools of the district. Because the school board was concerned about cost by school, the attendance center was the unit of analysis. A functional budget format was required by the state. Use cost information was excluded from the study since the district had no fixed asset accounting system nor did it keep a depreciation schedule for its facilities.

The basic methodology employed in the cost analysis study is discussed below. Because of the functional budget format, the traditional categories of administration, instruction health activities, operation, maintenance, fixed charges, student activities, food services, and transportation were the basis for the cost allocation.

Administration

Administration includes those activities associated with the school board and central office including the superintendent and staff. Expenditures associated with administration were considered indirect costs and allocated to each attendance center on the basis of the number of certified staff employed in the school.

Because there were other expenditures for administration that were not budgeted in the line item, these costs were identified and added to the function before the costs were prorated. These related costs included expenditures for building and content insurance, utilities, maintenance and custodial supplies, and other expenditures related to the operation of the system-wide administration. Although these expenditures were budgeted and accounted for in their respective line items, they constituted costs related to the administrative function and were added to the administrative costs before proration to the various attendance centers.

Salaries. Contract salaries, alone, do not provide a complete indication of the service cost to the school district. The district incurs other costs associated with personnel including the employer's share of social security, workmen's compensation insurance, health insurance, and other fringe benefits. Salaries for professional personnel were determined by totaling the contract salary, the employer's share of social security, workmen's compensation, and the health insurance premiums.

The clerical personnel received no health insurance from the district. All salary information was readily available from school district records.

Contracted Services. This includes those services rendered by personnel who are not on the payroll of the school district (Handbook II, 1957). The expenditures for the annual audit and for attorney's fees were included.

Other Expenses. This includes the supplies and other materials for the operation of the central office and school board. This included expenses for dues, postage, travel, school elections, printing and publishing, professional books and literature, and other related expenses.

Table II shows the format used to gather administrative cost data.

Instruction

Instruction includes the activities dealing directly with or aiding in the teaching of pupils or improving the quality of teaching (Handbook II, 1957). Expenditures associated with the instruction function generally constitute the largest outlay from a school district's budget. It is not uncommon for expenditures from this function to represent 75-80 percent of the total current operating budget. The specific items and cost factors are described below.

Salaries. All salaries related to instruction were considered and included the salaries of principals, counselors, librarians, classroom teachers, and substitutes. Salaries represent a direct cost to an attendance center even though some of the individuals served more than one school during the day.

Three steps were necessary in the determination of instructional salary costs. Step one involved the calculation of each professional employee's gross salary. The gross salary was the total of the contract salary, employer's share of social security, workmen's compensation, and health insurance premium. All salary information was gathered from school district records.

Step two consisted of the allocation of gross salary to the appropriate attendance center. Since some of the professional employees were assigned to more than one school, it was necessary to allocate their gross salary to the proper attendance center. The assignment information was obtained from school district records.

The final step in the process involved totaling all allocated professional salaries for each attendance center. This figure represented the total service cost of instructional personnel salaries for each school. Table III shows how salaries were determined for High School A.

Secretary and Clerical Assistance Salaries

Secretary and clerical assistance salaries were calculated in much the same fashion as described above. The salary figures were obtained from school district records. The primary difference in terms of cost was that the district did not pay health insurance for these employees. Costs were calculated by totaling the annual salary, employer's share of social security, and workmen's compensation.

Gross salaries of secretaries were allocated directly to three of the schools. Since one secretary served both a high school and the adjoining grade school, it was necessary to prorate that salary on the basis of number of certified personnel served. The rationale for this allocation method was that secretarial services are more closely related to professional personnel needs than to student's needs.

The salaries of teachers aides were assigned directly to the two high schools, with one salary prorated between the high school and adjoining grade school on the basis of the number of teachers served.

Other salaries for instruction represented salaries for substitute teachers. The rate of pay for a substitute teacher was $25 per day with the school district paying its share of the social security contribution. The district did not incur any cost for workmen's compensation or for health insurance for the substitutes. The total salary costs were calculated on an average basis rather than actual experience. Average practice in the district was four days absenteeism for grade school teachers and five days absenteeism for high school teachers.

Teaching Supplies

These costs represent expenditures for all supplies which are actually or constructively consumed in the teaching-learning process (Handbook II, 1957). Teaching supplies were allocated to the schools according to the following methods:

A. Allocation Per Teacher: Part of the cost of teaching supplies was allocated to each school on the basis of the number of classroom teachers serving the school. These costs were allocated to the grade schools at the rate of $175 per F.T.E. teacher and to the high schools at $225 per F.T.E. teacher.

B. Specialized departments in the two high schools were allocated teaching supply funds from the district office. These departments included guidance, speech and debate, science, industrial arts, art, instrumental and vocal music. These costs were treated as a direct cost to the appropriate attendance center. However, since the guidance service was shared by the two high schools, the supply allocation was prorated to each school on a per pupil basis.

C. The district maintained a central supply of paper and related items. These materials and supplies were distributed to the individual schools on a need basis. The majority of the central supply costs were allocated to the schools at a rate of $8.19 per pupil. The residual costs were considered related to the operation of the central office.

School Libraries and Audio Visual

These costs represent expenditures for the acquisition of a variety of library materials. Because the costs were available by attendance center, they were treated as direct costs.

Other Expenses for Instruction

These costs represented expenditures for miscellaneous supplies, travel and school-related dues. Field trips and debate expenses would come under this category. Because these expenses were related directly to students, the costs were prorated on a per pupil basis. The average pupil cost of other expenses for instruction was $12.00.

Health Services

Health services were provided to the school district on a contract basis from the county health department. A total of $2,000 was budgeted by the school board to cover the health services cost. This cost was considered to be an indirect cost and was allocated to each school on the basis of number of pupils enrolled times the average cost per pupil, which was determined to be $3.19.

Operation of Plant

This function consists of the housekeeping activities concerned with keeping the physical plant open and ready for use. It includes cleaning, heating, lighting, communications, caring for grounds, and other housekeeping activities as are repeated on a regular basis (Handbook II, 1957). The three major components of this function are salaries, utilities, and supplies. The cost to the attendance centers of each component was determined by different methods.

Custodial salaries were determined by totaling the annual salary, employer's share of social security, and workmen's compensation and were allocated directly to all schools except the high school and grade school combination. In the case of that school the custodial salary was allocated to the high school and the grade school on the basis of the area of each school as a percentage of the total combined area of the facilities.

Heat and Utilities costs were obtained from school district records and included gas, electricity, water, trash collection, and telephone service. Utility records were available by attendance center so the costs were allocated directly to the appropriate school.

Supplies and expenses for operation constituted an indirect cost to each school. The $9,000 that had been budgeted by the district for the school year was allocated to each school on the basis of the area of each school as a percentage of the total area of all school buildings in the district.

Maintenance of Plant

This function consists of those activities that are concerned with keeping the grounds, buildings, and equipment at their original condition of completeness or efficiency, either through repair or by replacement of property (Handbook II, 1957). Because the cost data were available by attendance center, the expenditures were treated as direct cost.

Fixed Charges

Fixed charges are expenditures of a generally recurrent nature which are not readily allocable to other expenditure accounts (Handbook II, 1957). Workmen's compensation and health insurance were included with the employee's salaries. The primary component of this functional category was building insurance for the various buildings. Since the premium amounts for the school year were available for each school from school district records, they were handled as direct costs.

Student Body Activities

Student body activities are direct and personal services for public school pupils, such as interscholastic athletics, entertainments, publications, clubs, band, and orchestra, that are managed or operated by the student body under the guidance and direction of adults, and are not part of the regular instructional program (Handbook II, 1957).

There were two components to this category, although they are not shown separately in the school district budget. One area is the direct school district expense for recognized activities. The other cost area is the district's share of approved student activity travel expenses. The cost figures were available from district records for the school year. The district's share of student activities was available for each school. Travel costs were allocated according to the activity mileage reported by the school times $.65 per mile, the average cost per mile for bus transportation in the district. Because some of the activity mileage was related to the grade schools, the total costs were allocated on the basis of 75 percent to the high schools and 25 percent to the grade schools.

Special Funds

The state budget format required that certain funds be budgeted outside of the general fund. These funds included vocational education, transportation, special education, drivers training, and food service. These costs were identified and allocated to the attendance centers.

Vocational Education. The budget for vocational education was reduced by the cost of teacher's salaries since the salaries had already been assigned to the respective high schools. The remainder of the fund was allocated between the two high schools on the basis of the number of pupils enrolled in vocational programs.

Transportation. Gross salaries for bus drivers were determined in the same manner that other salaries had been computed; that is, annual salary plus the district's share of social security, and workmen's compensation. The related salary expenses were added to the total budget for transportation and the capital outlay expenditures were factored out. The residual budget was then allocated to the individual schools on the basis of the proportion of student riders from each school.

Special Education. Since the school district participated in a special education cooperative, the budgeted expenditures were allocated to the individual schools on the basis of the number of pupils enrolled in special education programs through the cooperative.

Driver's Training. The budget for driver's training was allocated to the two high schools on the basis of the number of pupils enrolled in the program.

Food Service. Gross salary costs for lunchroom personnel were determined including contract salary plus district's share of social security plus workmen's compensation insurance. The related salary expenses were added to the total food service budget and the balance was allocated to the individual schools on the basis of the proportion of pupils eating in the school's lunchroom.

Capital Outlay. Expenses for capital outlay were not considered in this particular cost analysis process because the district did not have fixed asset accounting records and sufficient records were not available to construct a depreciation schedule necessary for developing use cost data.

Table IV shows the form used to record the functional cost for each attendance center based on the cost analysis process described above.

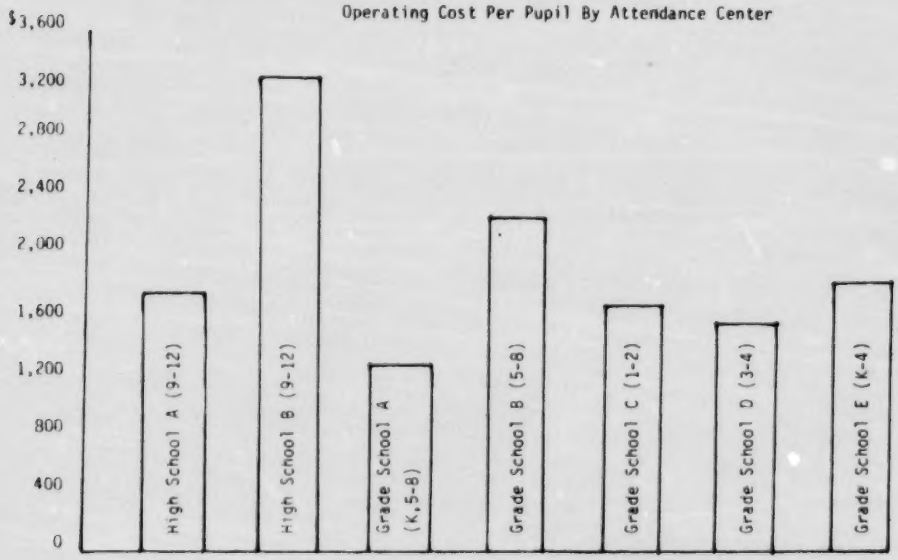
Findings and Conclusions

The results of the cost analysis are shown in Table V. The bar graph in Chart I shows the cost per pupil by attendance center among the seven schools of the district. There are important cost differences between the schools. The most significant difference is between the two high schools where the disparity is $1,475 per pupil. For the two grade schools, the difference is $1,139 per pupil. The cost differences among the three remaining schools are not as pronounced.

There is a general inverse relationship between the cost per pupil and enrollment. That is, the smaller the enrollment of the various schools, the greater the per pupil operating cost. This observation is particularly true for the schools of comparable grade organization. Two factors account for the cost differences. The primary factor is the pupil-teacher ratio and the resulting impact of personnel costs. The second factor represents those costs associated with providing a balanced curricular and extra-curricular program at the schools regardless of enrollment. In order to provide a minimally accepted curriculum, the same basic courses must be offered in each school regardless of enrollment with the resulting consequence of higher costs because of duplication.

Chart 1

Operating Cost Per Pupil By Attendance Center



$1,786	$3,261	$1,238	$2,377	$1,620	$1,554	$1,799	Operating Cost Per Pupil
192	48	182	43	60	62	40	Enrollment
13.5	6.9	8.2	8.8	13.0	12.9	11.0	Pupil-Teacher Ratio

A cost analysis provides an estimate of the total operating cost of a given unit of analysis, e.g., attendance center, program or delivery system. It does not provide an explanation of the resulting cost differences.

Certain trends however, are apparent from the findings of this study. Three factors appear to impact on the operating cost of attendance centers in the district--size of enrollment, pupil/staff ratio, and scope and breadth of program.

There are, of course, many other factors that impact on the operating cost of a school. Such factors would include sparsity, urbanization, cost of services, and so forth. An investigation of these factors is beyond the scope of this study.

In addition, research should be undertaken to determine program cost and to establish the cost differentials among a variety of regular and special programs. With the increasing number of special programs required and available in the public schools today, it is imperative that policymakers know the differential cost impact of these high costs, but important programs.

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TABLE I

Summary of Allocation Bases by Functional Budget Category

Unit of Analysis - Attendance Center

Functional Category	Allocation Basis
Administration	FTE Certified Staff
Instruction	
Consultants and supervisors	FTE Teachers
Principals	Direct
Teachers	Direct
Librarians	Direct
Counselors	Direct
Other salaries for instruction - substitutes	Direct
aides	Direct
Clerical personnel	Direct
Library books	Direct
AV Materials	Direct
Teaching Supplies	Direct
Other expenses for instruction	FTE Student
Health Services	FTE Student
Attendance Services	FTE Student
Operation of Plant	
Custodial salaries	Direct*
Heat and utilities	Direct*
Supplies and expenses	Direct*
Maintenance of Plant	
Maintenance salaries	Direct*
other expenses	% of building served
Fixed Charges - less retirement and insurance	Direct
Student Activities	
Assembly and Athletic reimbursement	Direct
Travel	Direct
Capital Outlay - current	FTE Student
Transportation	% of ridership
Food Service	% of total number eating

*Allocate directly where discernable. Otherwise allocate on basis of % total area served.

TABLE II

System-wide Administration
Current Operating Costs

Salaries		$ 33,479
Legal retainer	$ 500	
Superintendent	22,798	
Other professionals	0	
Clerk/secretary	10,181	
Others	0	
Contracted Services		$ 900
Audit	$ 500	
Attorney	400	
Other	0	
Other Expenditures		$ 14,500
Board of Education	$ 3,600	
Secretary's Office	1,000	
Treasurer's Office	1,000	
School Elections	750	
Superintendent's Office	1,000	
Public Relations	500	
Printing and Publishing	2,000	
Misc.	4,650	
Building and Content Insurance		$ 500
Security or fidelity bonds		$ 0
Utilities		$ 1,560
Custodial salaries and supplies		$ 619
Maintenance		$ 250
Other		$ 1,500
TOTAL		$53,308
AMOUNT ALLOCATED TO UNIT OF ANALYSIS (per FTE Staff)		$ 987.18

TABLE III

Instructional and Other Salaries*

High School A School

Position	Contract Salary	Social Security	Workmen's Compensation	Health Insurance	Gross Salary	Time	Allocated Salary
Principal	$ 16,000	$ 895	$ 32	$ 360	$ 17,287	1.0	$17,287
Science	11, 120	651	22	360	12,153	.8	9,722
Psy	12,380	724	25	360	13,489	.2	2,698
Guidance	12,380	724	25	360	13,489	.5	6,745
Voc. Ag.	9,655	565	19	360	10,599	1.0	10,599
Soc. Studies	8,160	536	18	360	10,074	1.0	10,074
Home Ec.	10,140	593	20	360	11,113	1.0	11,113
Music	10,800	532	22	360	11,814	.5	5,907
Music	12,320	721	25	360	13,426	.5	6,713
English	10,650	623	21	360	11,654	1.0	11,654
Speech	11,300	661	23	360	12,344	.5	6,172
Librarian	11,300	661	23	360	12,344	.5	6,172
PE	12,400	725	25	360	13,510	1.0	13.510
Bus. Ed.	12.430	727	25	360	13,542	1.0	13,542
Ind. Arts	8,540	500	17	360	9,417	1.0	9,417
Business	9,660	565	19	360	10,604	1.0	10,604
English	9,580	560	19	360	10,519	1.0	10,519
Art	9,230	540	18	360	10,148	1.0	10,148
Math	11,150	652	22	360	12,184	1.0	12,184
Science	7,900	462	16	360	8,738	.2	1,748
PE	10,000	585	20	360	10,965	.5	5,482
	228,095	13,302	456	7,560	249,413	16.2	192,010
Secretary	5,200	304	10		5,514	1.0	5,514
Aide	4,300	252	9		4,561	1.0	4,561
Substitutes[1]	1,775	104	0		1,879		1,879
Custodian	9,000	526	141		9,667	1.0	9,667
Custodian	9,000	527	142		9,669	1.0	9,669
Cook	5,250	307	82		5,639	1.0	5,639
Cook	3,500	205	55		3,760	1.0	3,760

[1] 14.2 Teachers X 5 days average absenteeism X $25 per day = $1,775

*This includes salaries for all employees assigned to the school

TABLE IV

Current Operating Costs

High School A School

Grade Organization 9-12 Enrollment 192 Number of Teachers 14.2

ADMINISTRATION		$ 15,992
INSTRUCTION		$ 217,775
Principal and Teachers' Salaries	$ 192,010	
Secretary and Clerical Salaries	$ 10,075	
Other Salaries for Instruction	$ 1,879	
School Library and AudioVisual	$ 1,400	
Teaching Supplies	$ 10,107	
Other Expenses for Instruction	$ 2,304	
HEALTH		$ 612
Other Expenses (Contracted Services)	$ 612	
OPERATION OF PLANT		$ 36,329
Salaries	$ 19,336	
Heat and utilities	$ 13,189	
Supplies and Expenses	$ 3,804	
MAINTENANCE OF PLANT		$ 5,864
Other Expenses	$ 5,864	
FIXED CHARGES		$ 2,070
Insurance and Judgements (Building Insurance)	$ 2,070	
STUDENT BODY ACTIVITIES		$ 6,522
School Reimbursement	$ 4,005	
Travel	$ 2,517	
SPECIAL FUNDS		$ 57,682
Vocational Education	$ 10,296	
Transportation	$ 12,941	
Special Education	$ 6,934	
Driver's Education	$ 1,576	
Food Service	$ 25,935	
Salary $ 9,399		
Other $16,537		
TOTAL CURRENT OPERATING COSTS		$ 342,846
TOTAL CURRENT OPERATING COSTS PER PUPIL		$ 1,786

TABLE V

Total Current Operating Expenses by Attendance Center

Function/ School	High School A (9-12) 192 pupils	High School B (9-12) 40 pupils	Grade School A (K, 5-8) 182 pupils	Grade School B (5-8) 43 pupils	Grade School C (1-2) 60 pupils	Grade School D (3-4) 62 pupils	Grade School E (K-4) 40 pupils	Total
Administration	15,992	7,897	10,859	5,133	4,837	4,936	3,653	53,307
Instruction	217,775	102,010	137,378	63,868	61,669	65,836	45,681	694,217
Health	612	153	501	137	191	198	128	2,000
Operation of Plant	36,329	12,713	15,449	7,920	4,242	5,488	6,583	88,724
Maintenance of Plant	5,864	3,574	836	2,504	369	698	850	14,695
Fixed Charges	2,870	702	801	1,676	1,808	293	1,000	8,350
Student Body Activities	6,522	5,901	3,001	1,969	0	0	0	17,393
Vocational Education	10,296	3,718	0	0	0	0	0	14,014
Transportation	12,941	4,686	14,057	6,248	7,140	6,025	4,239	55,336
Special Education	6,934	4,953	13,867	3,302	7,594	0	1,651	38,301
Drivers' Training	1,576	724	0	0	0	0	0	2,300
Food Service	25,935	9,474	28,517	9,473	9,339	12,904	8,176	103,818
Total Current Operating Cost	342,846	156,505	225,346	102,230	97,189	96,370	71,961	1,092,455
Total Current Operating Cost per pupil	$1,786	$3,261	$1,238	$2,377	$1,620	$1,544	$1,799	
Pupil-Teacher Ratio	1-13.5	1-6.9	1-8.2	1-8.8	1-13.0	1-12.9	1-11.0	

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RECRUITMENT AND RETENTION OF QUALIFIED TEACHERS

by

Douglas Herbster

Introduction and Need for the Study

The number of certified secondary public school teachers has increased dramatically over the past two decades. The "teacher shortage" of the war years and the 1951's and 1960's has all but vanished. These facts coupled with lowering public school enrollments due to birth rate decreases throughout the United States and Montana have placed severe burdens on secondary school teachers looking for new employment.

Rural district superintendents of schools are usually empowered by district school boards to recommend to these boards secondary teachers to be hired to fill vacancies in teaching staffs. Because of the large numbers of secondary teachers presently available today, district superintendents of schools can afford to be very selective when filling these vacant positions. A prospective secondary teacher must therefore give himself every advantage in this highly competitive job market. A prospective secondary teacher should have beforehand knowledge of the job market's (1) most desirable or least desirable single-field subject competency, (2) the most desirable multi-field major-minor subject areas, (3) the range of years of classroom teaching experience most preferred by hiring district superintendents of schools, (4) the professional preparational levels preferred most by hiring district superintendents of schools, and (5) the influence previous superintendency experience hiring district superintendents of schools might have on hiring preferences for applicant secondary teachers. A prospective teacher with this information will have provided himself an employment advantage over the competition.

Among the conclusions obtained from this study are college-bound students considering education, or college students enrolled in education curricula, need to be aware of secondary teaching subjects in highest demand among hiring districts. Practicing secondary teachers also need to be aware of possible hiring preference changes of district superintendents of schools brought on by increased classroom teaching experience and/or advanced certification resulting from earned fifth-year endorsements, master's degrees, or doctorate degrees.

This study points out that there are indeed definite hiring preferences shown toward applicant secondary teachers in the areas of professional educational preparation, the number of years of classroom teaching experience, and whether the applicant teacher is endorsed in a single-field or a multi-field subject area.

Following is a brief summary of the findings of all of the components questioned:

I. Smaller schools prefer teachers who can teach more than one subject area (example, math, science, English and social studies)

II. Larger schools prefer teachers who are specialized in a particular field. They prefer teachers teaching in their major field.

III. Both the larger and small schools prefer teachers with a bachelors degree. Many larger districts encourage a masters degree after they are employed. Many larger districts encourage a masters degree after they are employed. Many smaller districts do not encourage a masters degree at any time. Some of the larger districts in Montana allow for salary differences for the doctorate degree, but more of the school officials stated they encouraged the degree for the classroom teacher.

IV. The smaller districts prefer teachers with little or no experience because of limited funds used for teachers' salaries. The larger districts prefer teachers with no more than five years of experience. Many larger districts allow up to five years experience on their salary schedule.

V. The subject areas which are very critical in both the large and small districts in Montana are:

1. Agricultural Education
2. Mathematics
3. Music
4. Industrial Arts

Both the large and small districts prefer math teachers who are qualified to introduce students to basic elements in the operation of computers. Areas which are overcrowded are:

1. Social Studies
2. History
3. Boys Physical Education
4. Foreign Language

All of the superintendents in all the schools indicated the four areas listed as overcrowded.

The smaller schools stressed the importance of being able and willing to work in extra-curricular activities, particularly in addition to regular classroom load because of the more recent emphasis in girls athletics.

VI. Age was a factor mentioned by all of the people interviewed both in the smaller and larger schools. It seemed as if each would prefer a candidate who had worked in another field for a few years if all other qualities were equal. (Example, former carpenter teaching industrial arts).

VII. The smaller district's representatives mentioned tenure as a major issue when considering a teacher's third contract. One official stated that, in smaller schools, how a teacher adjusts into a community is a very important criterion when considering a teacher for a tenure contract. Large districts did not seem to be as concerned about tenure, but stressed a concern about salary when teachers did not retire after thirty years.

After interviewing and considering all of the criteria available we established a general outline of alternatives which might be considered, modified, and employed only after the tailoring required by the uniqueness of a given situation.

1. Those college students currently enrolled in secondary teaching curricula should be encouraged to certify in subject areas wherein the supply of teachers is not expected to greatly exceed the demand.

2. College students currently enrolled in secondary teaching curricula should consider dual or even multiple subject certification, thus increasing both options and teaching flexibility.

3. Efforts should be made to acquaint college-bound high school students interested in education careers with specific aspects and trends relating to the oversupply situations peculiar to their subject area or regions.

4. Teacher training colleges and universities should review their current programs and direct attention toward instituting additional professional and technical curricula wherein future demands are more encouraging.

5. Teacher candidates be strongly encouraged to avoid single-field endorsement, if interested in teaching in rural areas.

6. Teacher candidates be strongly encouraged to broaden teaching subject areas with multi-field major-minor endorsements.

7. Lesser emphasis be placed by colleges upon the recruitment of new teacher candidates particularly in crowded areas.

8. Greater emphasis be placed by colleges involved in teacher training to improve the teaching techniques of existing teachers and those teacher candidates currently in training.

9. Student advisors at both high school and college level should become more familiar with the trends in the demand for teachers in rural education.

10. Results of this study should be constantly updated to provide timely information to those teachers just entering the profession and to those secondary teachers relocating or considering a change in professional status.

11. Continual research be undertaken in the areas of future population changes that could affect teacher employment prospects.

12. Further research be undertaken to identify those factors contributing to differences in the hiring preferences to rural district superintendents of schools as noted in this study.

13. Further research be undertaken to identify and predict future teacher supply demands for various secondary teaching subject areas particularly regarding rural communities.

14. Further research be undertaken to more accurately identify those areas where differences between rural district superintendents of schools and metropolitan areas in regard to placement officials were noted in this study.

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VCR MICROCOMPUTER TEACHING/INSERVICE

by

Jacqueline K. Pederson and Daniel J. DeGuire

Presently, there exists a new, renewed interest in the needs of small and rural schools. The all Schools Project at the National Rural Center has just completed a massive statistical profile of all schools and is in the process of completing a set of case studies on small, rural schools Dunne, 1981). The Educational Resources Information Center (ERIC) has established a Clearing House Rural Education and Small Schools (CRESS). Additionally, the National Center for Smaller Schools Texas Tech University has surveyed the needs of the smaller schools across the nation. Among the rious areas of need identified by small school teachers and administrators, eleven of the top twelve ems require professional development assistance.

However, since the Conant Report (1959) recommending consolidation of smaller schools, the major phasis of educational research and development efforts has been on the improvement of educational rograms and practices of the larger, urban, and consolidated schools. As late as 1978, Muse reports at no more than six universities in the nation offered courses that might be of any prospective lue specifically to rural teachers.

Most universities fail to consider data detailing the number of small school districts when veloping new courses or evaluating the content of existing courses. In 1981, small school districts ith enrollments of less than 200 students comprised nearly 3/4 of the total number of districts in e nation and serve nearly 20% of the students (Horn, 1981). There are 6099 schools and school istricts, with fewer than 500 students each, comprising 36% of the nations total (Dunne, 1981).

Many rural high school students are forced to choose from a dwindling number of course offerings hat do not meet their personal goals or the entrance requirements of universities. If several udents express an interest in a particular course offering, locating teachers with the necessary kills and expertise for the specialized courses creates a problem. Any viable solution of teacher raining and professional development is hindered by the remoteness of rural communities which limits e opportunities of staff at universities, libraries, and regional service centers.

Dunne (1981) found a general dissatisfaction among the teachers in small rural schools regarding heir current inservice programs; 40% of the teachers in her survey said that the school does a poor ob with staff development programs and less than 30% said that the local educational agency does a ood job.

It is imperative that a design for inservice education for teachers and administrators adhere to he best practices found in previous successful inservice programs. Burdin (1973) found that effective programs serve large numbers of remotely based teachers at their home site. Hall et al. (1969) ote similar findings and cite the need to serve the teachers in their own setting through the use of arious types of mobile units and itinerant learning facilitators. Wood et al. (1980) emphasized that dults learn best through concrete experiences presented in an individualized mode.

Also well documented is the success of computer assisted instruction (CAI) in meeting staff evelopment needs. The CAI Lab at Penn State University conducted extensive research of the application of CAI to inservice education of teachers in remote settings. Those participants who received he computer assisted training consistently scored significantly higher in achievement, needed less nstruction time, and preferred the method of delivery over that given the participants in the control roups (conventional, teacher-directed instruction).

Other projects have been successful in improving the quality of delivery by adding audio messages, slides and hand-drawn graphics with the basic programmed print (Vitello et al. 1972).

The sustained growth of microcomputers in schools strongly supports capitalizing on the technology proposed for the development of inservice computer assisted instruction (CAI) modules. A study by arket Data Research revealed that 42% of the school districts in the country already have at least he microcomputer and that in the five year period from 1980-1985, there will be a 300% increase in he number of districts with micros. Their data further revealed that while there are proportionately ewer smaller districts (under 1200 average daily membership (ADM)) with micros than large districts, en they are reported to have micros in nearly 30% of the districts.

A potentially ideal method of providing inservice opportunities while adhering to the best actices of inservice programming is through the development of training programs which utilize a new echnology that will advance the learner one step closer to actual "hands-on" instruction. Through he use of a video controller, a microcomputer can be linked with a video cassette recorder, thus mbining the interactive and immediate feedback advantages of the computer with the realism of a deo tape player.

By coupling a video controller with the Course Designer Authoring Package available from Texas struments Incorporated, a teacher or administrator can become a course designer and create/update aining lessons without any programming knowledge. This authoring package allows the course designer create a lesson by building a sequence of teaching segments called modules. A single module can ve any combination of three parts - a video segment, a computer segment, and a speech segment. By ing these segments in various combinations, the course designer can create both traditional mputer-assisted instruction and innovative interactive video instruction. Through interactive lection lists and on-screen prompts, the package guides the course designer step by step in entering e lesson content into the computer. The Course Designer Authoring Package also:

1. Enables the course designer to use two types of branching: immediate branching based on the udent's last response of cumulative branching based on a percentage of correct responses.
2. Offers a variety of computer text formats: text only, true/false, multiple choice, and ll-in-the-blank.
3. Gives the option of selective judging with the multiple-choice format, i.e., some choices can judged right or wrong while other choices need not be judged at all.
4. Allows records to be kept on a diskette and/or with a printer.

5. Prints a copy of a lesson's contents for review.

6. Allows the course designer to review videodisc segments (including single frames on a videodisc) while designing the training course.

7. Gives the advantage of virtually unlimited synthesized speech by using TI's text-to-speech technology.

8. Automatically creates a custom lesson that can be stored on an audiocassette, a diskette, or the audio dub track of a compatible videotape recorder.

The Computer Assisted Special Education Training for Small Schools project (CASETSS), located at Texas Tech University, will use the Video Controller and Authoring system for the purpose of developing and delivering inservice, special education programs to school districts. Individualized lessons, originally produced in text form for use in special education training programs for regular classroom teachers, are being expanded and adapted at this time for immediate dissemination to rural schools. CASETSS also proposes to nationally disseminate the results of this exciting innovation in professional development through publications and presentations at professional conferences.

Because it incorporates many of the best practices of inservice education in small, rural schools, the use of the computer/video linkage for inservice education programs holds great promise for improving both the method of delivery and the content of professional development activities.

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AREAS OF GREATEST NEED AMONG SMALLER SCHOOLS IN THE UNITED STATES

by

Weldon Beckner

It is widely recognized that one of the major problems confronting those who would like to improve the opportunities for students in smaller schools is the lack of good data about those schools. In an effort to meet some of that need, the staff of the National Center for Smaller Schools at Texas Tech University conducted a national needs assessment during the 1981-82 school year.

To collect the desired data, a stratified random sampling procedure was used. The stratification was by five geographic regions of the country, following a definition of "small school" as: (1) any school or school system, public or private, enrolling fewer than 1000 students; (2) any high school that enrolls fewer than 300 students; or (3) any elementary school enrolling fewer than 15 students per grade. The geographic regions selected were Northeast, Southeast, Southwest, Midwest and West. One-third of the states of each region were selected for sampling. The sample of schools to be surveyed was drawn using the state school directories and the table of random numbers.

A survey instrument was developed and trial tested, the items being drawn from the literature and a survey administered to graduate students from small schools who were enrolled at Texas Tech University during the fall of 1981. Three broad areas of need were identified: Curriculum and Instruction, Administration, and Professional Preparation and Development. The instrument developed used a five-point scale asking for responses relative to both "Ideal" and "Real" preferences. The "Ideal" response asked for a rating in terms of perceived degree of importance on a scale ranging from "essential" to "not important." The "Real" response asked for a rating in terms of how well those needs were being met or how well they were being performed. The scale for this response ranged from "very well" to "very poor."

The selection of a discrepancy model for data collection and analysis was to ensure that items identified as important were also items that needed improvement. The operational definition of a "need" then, was the discrepancy between levels of perceived importance and perceived performance.

Demographic information gathered from each respondent included population setting, sex, ethnicity, position, age, highest degree earned, total years in education, and years experience in small schools. Treatment of the data yielded analysis grouped into "high ideal," "low ideal," "high real," and "low real." The five-point scale used yielded data which were categorized as relatively "high" if the mean was above 3.0 and relatively "low" if the mean was below 3.0. Ratings of both importance and performance were examined concomitantly, causing each item to fall into one of four categories or quadrants--high ideal/high real; high ideal/low real; low ideal/high real; or low ideal/low real. Ranking within quadrants was determined by a combined, weighted score, which was calculated by multiplying the ideal score mean by two and subtracting from that the real score mean.

Means and frequency distributions were calculated for all demographic data and for each item in the survey. Difference testing was performed by region of the country and by position. Analysis of variance and T-test procedures were used on the data.

This report of the data analysis will be limited to the major purpose of the study, which was to identify areas of greatest need among smaller schools. Other data provided information about age distributions, experience of teachers and administrators, ethnicity, level of education, sex, and population setting.

The respondents were asked to respond to the 96 items on the survey first in terms of how important they perceived these items to be for their own purposes in their own schools. Table 1 contains the top ten items from the ranking--those perceived to be most important by the respondents. In general, the items tended to cluster around issues related to classroom management and school administration.

Table 1: Top Ten Items From Ranking by Importance (Ideal)

Rank	Item	Mean
1	Maintain effective discipline	4.70
2	Adequately staff each school with appropriately trained personnel	4.62
3	Maintain effective classroom management.	4.59
4	Establlish, communicate and enforce discipline policies.	4.54
5	Demonstrate active support of faculty & staff.	4.54
6	Assure that school policies and procedures are in compliance with established laws.	4.52
7	Provide safe and secure work environment	4.46
8	Assure that adequate supplies and materials are in the schools	4.43
9	Provide consistent and fair enforcement of personnel rules and regulations.	4.40
10	Secure input from teachers when making decisions which affect instruction	4.38

Table 2 contains the bottom ten items from the ranking--those perceived to be the least important by the respondents. The items at the bottom end of the ranking tended to cluster around issues related to curricular offerings and instructional methods.

Table 2: Bottom Ten Items From Ranking by Importance (Ideal)

Rank	Item	Mean
87	Provide courses in free enterprise.	3.17
88	Encourge community involvement in instruction	3.16
89	Training in report preparation and record keeping skills.	3.08
90	Encourage community involvement in planning	3.04
91	Alternative modes of delivery for inservice, such as videotape or closed curcuit television.	2.92
92	Utilize peer tutoring programs.	2.89
93	Provide foreign language courses.	2.85
94	Training in multicultural education	2.72
95	Utilize team-teaching strategies.	2.65
96	Provide bilingual program	1.92

The respondents were also asked to respond to the same 96 items on the survey in terms of how well they perceived these items were being performed in their schools. Table 3 contains the top ten items from the ranking by performance. Again, most of the items in the top ten pertained to matters related principally to classroom management and school administration.

Table 3: Top Ten Items From Ranking by Performance (Real)

Rank	Item	Mean
1	Assure that school policies and procedures are in compliance with established laws.	4.25
2	Provide safe and secure work environment	4.18
3	Maintain effective discipline.	4.07
4	Demonstrate active support of faculty and staff.	4.06
5	Encourage student-teacher interaction during instruction	4.04
6	Assure that adequate supplies and materials are in the schools	4.02
7	Establish, communicate and enforce discipline policies.	4.01
8	Maintain effective classroom management.	4.01
9	Adequately staff each school with appropriately trained personnel.	3.99
10	Establish and maintain informal contact with students.	3.96

Table 4 contains the bottom ten items from the ranking. The items again tended to cluster around issues related to curricular offerings and instructional strategies.

Table 4: Bottom Ten Items From Ranking by Performance (Real)

Rank	Item	Mean
87	Alternative modes of delivery for inservice, such as videotape or closed curcuit television	2.61
88	Training in grouping strategies and small group management skills.	2.56
89	Provide programs for gifted and talented	2.56
90	Continuous training for classroom aides or volunteers.	2.55
91	Utilize peer tutoring programs	2.48
92	Training in multicultural education.	2.43
93	Provide foreign language courses	2.39
94	Utilize team-teaching strategies	2.38
95	Strategies for dealing with teacher burnout.	2.18
96	Provide bilingual programs	2.06

Total Sample--Quadrant Assessment

When the items on the survey were examined both in terms of importance and performance, they were placed into one of the four quadrants discussed above--High Ideal-High Real, High Ideal-Low Real (Needs Quadrant), Low Idea-High Real, or Low Ideal-Low Real. Seventy-four of the 96 items on the survey (77.11%) were perceived to have been both important ideally and performed well (High Ideal-High Real). None of these items constitute areas of need, therefore, because at the same time they were perceived to be relatively important they were also perceived to be performed relatively well in reality.

None of the items were perceived to be of low importance and high performance. Six items were perceived to have been neither important nor well performed in reality. All six of these items appear in Tables 2 and 4.

Sixteen items were perceived to have been relatively important but not performed well in reality. These items constitute areas of actual need since, in the perceptions of the respondents, there is a

discrepancy between the way things are (Real) and the way things should be (Ideal). Table 5 contains the items in the needs quadrant, including the Ideal and Real means and the composite scores used in ranking the items within the quadrant. Table 6 contains the listing of the items from the Needs Quadrant.

Table 5: Ranking of Survey Items Found in the Needs Quadrant (High Ideal-Low Real)

Rank	Item	Ideal x	Real x	Comp.*
1	88	4.10	2.89	5.31
2	89	4.04	2.92	5.14
3	85	5.52	2.18	4.87
4	84	3.78	2.88	4.72
5	11	3.53	2.56	4.51
6	73	3.57	2.78	4.37
7	75	3.51	2.77	4.26
8	77	3.57	2.98	4.17
9	86	3.52	2.93	4.14
10	78	3.24	2.55	3.96
11	87	3.24	2.56	3.93
12	51	3.18	2.71	3.65
13	35	3.16	2.72	3.62
14	6	3.17	2.88	3.51
15	36	3.04	2.68	3.43
16	79	3.08	2.78	3.41

Table 6: Listing of Items in the Needs Quadrant-Total Sample

Rank	Item
1	Strategies to motivate students
2	Training in fostering positive student self-image
3	Strategies for dealing with teacher burn-out
4	Some type of incentive program for professional development, such as college credit, released time, or monetary compensation
5	Provide programs for gifted and talented
6	Training in principles and methods of counseling students
7	Training in how to conduct effective parent conferences
8	Training in methods to individualize instruction
9	Regular opportunities to communicate classroom successes and failures with peers
10	Continuous training for classroom aids or volunteers
11	Training in grouping strategies and small group management skills
12	Strengthen parent teacher organizations
13	Encourage community involvement in instruction
14	Provide courses in free enterprise
15	Encourage community involvement in planning
16	Training in report preparation and record-keeping skills

The discrepancy between Ideal and Real scores on items in the top of the ranking clearly indicate that these items should be viewed as areas of need. However, items near or at the bottom of the ranking should not be interpreted as true areas of need. The last four items in the ranking also appear among the bottom ten items when ranked by importance alone (Table 2), and are clearly, then, not relatively important.

Differences in Findings By Position

Differences in responses by principals (N=211) and superintendents (N=204) were examined and it was determined that there was no significant difference between the two groups on either the Ideal or the Real scale. There were some differences on individual items, but for the purpose of comparing teachers with administrators, the responses of principals and superintendents were combined to form the administrators group.

The responses by teachers (N=450) and administrators (N=428) were examined and it was determined that there were significant differences between the two groups on both the total Ideal and total Real scales ($p<.001$). In terms of the individual items, there was statistically significant difference between the groups on over 54% of the items on the Ideal scale and on over 63% of the items on the Real scale. The areas of disagreement were broad, but some patterns or trends were discerned.

Out of the 52 items on the Ideal scale for which there were significant differences between groups, the administrators perceived the items to be significantly more important than did the teachers 80% of the time. At the same time, out of the 61 items on the Real scale for which there were significant differences between groups, the administrators perceived the items to be significantly better performed than did the teachers over 90% of the time. In other words, with only a few exceptions, the administrators believed that many of the items on the survey were both more important and better performed than did the teachers.

With such significant differences between the two groups in their responses to the items on the two scales, it was necessary to re-examine the Needs Quadrant in terms of the perceptions of the two groups rather than the total sample.

Nearly one third of the items perceived to be needs by teachers were not similarly perceived by administrators and did not appear anywhere in the administrators' Needs Quadrant. Of these five items, three did not appear anywhere in the Needs Quadrant of the total sample (See table 7).

Table 7: Items Perceived as Needs Only by Teachers and Their Relative Rankings

Rankings Teacher	Total	Items
2	1	Strategies to motivate students
6	-	Provide Courses in free enterprise
9	-	Collaboratively planned inservice programs, with teachers stating their areas of need.
12	8	Training in methods to individualize instruction
15	-	Training in proper use of audio-visual equipment

In spite of the numerous differences between the two groups, there was still some concordance between teachers and administrators regarding areas of need. Nearly 70% of the items identified by teachers as needs were also identified as such by administrators, although their rankings within groups varied somewhat (See table 8).

Table 8: Areas of Need For Which There Was Agreement Between Teachers and Administrators

Rankings T	A	Total	Items
1	6	3	Strategies for dealing with teacher burnout
3	5	4	Some type of incentive program for professional development
4	1	2	Training in fostering positive self-image
5	4	5	Provide courses for gifted and talented
7	3	6	Training in principles and methods of counseling students
8	8	9	Regular opportunities to communicate classroom successes and failures with peers
10	2	7	Training on how to conduct effective parent conference
11	10	10	Continuous training for classroom aides or volunteers
13	7	11	Training in grouping strategies and small group management skills
14	12	12	Strengthen parent-teacher organizations
16	11	13	Encourage community involvement in instruction

Differences in Findings by Region

Differences among regions were significant on the total Ideal scale ($p<.01$). A Duncan's Multiple Range Test determined that the perceptions of the respondents in the Southeast region (Kentucky, North Carolina, West Virginia, and Mississippi) were significantly different from those in the West (Oregon, Nevada, and Idaho). There were no other differences among regions on the total Ideal scale (see table 9).

Table 9: Duncan's Multiple Range Test To Identify Differences Among Regions-Total Ideal Scale

Region	N	Mean	Grouping*	
Southeast	155	345.81	A	
Southwest	305	338.30	A	B
Northeast	97	337.44	A	B
Midwest	217	333.77	A	B
West	177	328.42		B

*Means with the same letter are not significantly different

In terms of the total Real scale, differences among regions was again significant ($p<.05$). The Duncan's Multiple Range Test determined that the perceptions of the respondents in the Southwest Region differed from the perceptions of the respondents in all the other regions (See table 10). In other words, respondents from the Southwest perceived that the various items on the survey were significantly better performed in reality than did the respondents from any of the other regions.

Table 10: Duncan's Multiple Range Test To Identify Differences Among Regions--Total Real Scale

Region	N	Mean	Grouping*
Southwest	305	303.99	A
Northeast	97	291.51	B
Midwest	217	291.50	B
West	177	289.93	B
Southeast	155	288.93	B

Among the various regions, respondents from the Southeast were most critical of the way in which the items were being performed, even though they perceived the items to be more important than did any other region.

SUMMARY

During the Fall, 1981, the staff of the National Center for Smaller Schools conducted a needs assessment among the nation's smaller schools. A total of 951 schools from 17 states were included in the study.

The 96 items on the survey fall into three broad categories--curriculum and instruction, administration, and professional preparation and development. The survey instrument permitted respondents to react to these items both in terms of how important they perceived them to be (the Ideal scale) and in terms of how well they were being performed (the Real scale).

Every item is found somewhere on the high/low continuum for both the Ideal and Real scales. Those items perceived by the respondents to be relatively important but not performed well in reality constitute areas of greatest need among the nation's smaller schools.

Over 77% of the items on the survey were perceived to have been both important and well performed in reality. On the other hand, eleven items were found to be definite areas of need, ten of which were from the professional preparation and development category. The top five needs were: 1) develop strategies to motivate students; 2) provide training in fostering positive student self-image; 3) identify strategies for dealing with teacher burnout; 4) provide some type of incentive program for professional development, such as college credit, released time, or monetary compensation; and 5) provide programs for gifted and talented students.

There were significant differences between the perceptions of teachers and administrators (principals and superintendents) on both the total scales and on numerous individual items. Statistically significant differences were found on over 54% of the items on the Ideal scales and on over 63% of the items on the Real scale. Nearly one-third of the items perceived to be needs by the teachers were not similarly perceived by the administrators.

There were also some differences by region of the country. The sample was divided into the following five geographical areas: Northeast, Southeast, Southwest, Midwest, and West. On the Idea scale, the perceptions of respondents from the Southeast were significantly different from those in the West. On the Real scale, the perceptions of respondents from the Southwest were significantly different from those from every other region.

CONCLUSIONS AND RECOMMENDATIONS

Although respondents perceived that most of the items on the survey were both important and being performed well in reality, there were a number of distinct areas of need that were identified in this national assessment. Most of these needs are related to, and can be met through effective staff development efforts. It is therefore incumbent on institutions of higher education and other training agencies and organizations to examine the extent to which the findings reported here are applicable to small schools under their purview, and to meet with school personnel in order to collaborately plan inservice activities that will meet those needs.

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FACTORS OF THE ACQUISITION PROCESS WHICH INFLUENCE THE EFFECTIVE UTILIZATION OF COMPUTERS

by

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INTRODUCTION

Acquisition of computer hardware and institution of computer oriented curricular programs are aspects of the changing climate of American education. This subject has received much attention in recent months from such diverse areas as the media, business, and government. Weekly, articles in such widely circulated magazines as Time, Newsweek, and even T.V. Guide, point to the increased exposure we all witness to computer related technologies. Currently, there are many publications on the market which deal primarily with computer related topics. On television, usually within a week's listings, there is some program addressing the impact of computers on our society. More and more businesses are entering the computer market. Where once there were only components from a select series of companies, now one can find equipment from many sources, plus the availability of do-it-yourself components.

In the midst of all this attention and growth, local school districts must make decisions about computer acquisition for their schools. There are already an estimated 100,000 computers in classrooms in this country. Projections indicate this will increase more than three fold in a short two year period.* The United States Department of Education recognizes this as a major shift in curricular emphasis, and in response has established project BEST (Basic Education Skills through Technology) to assist schools in a non-regulatory fashion with this new and sometimes unfamiliar field. Project BEST is basically an information and resource exchange system primarily focused on making educators more aware of innovations and possibilities. They have designated what they call "lighthouse schools" around the country in an effort to spotlight innovative use of computers and technology. In addition, they have begun to form at a national level, a resource exchange network to assist schools in identifying appropriate directions for acquisition and use.

In a 1981 survey of Kentucky school districts, 140 of 180 systems indicated they had at lest one microcomputer for classroom use. Systems began purchase of computer equipment as long as five years ago, but there has been a dramatic increase of investment in this area in the last two years. Since the 1981 survey was completed, many schools have expanded their systems or initiated more elaborate curricular programs. Currently, the State Department of Education is conducting a follow up study examining hardware selection, funds used for purchase, and curricular areas currently using computer equipment.

Purchase of computer equipment represents a formidable expenditure in these lean economic times. Today we see cutbacks in almost every area of academic service. Teachers are being laid off, programs cut or shifted. How do schools make the decision to commit their increasingly limited resources to such a program? The feeling of responsibility to students is often strong and overwhelming, and can be a compelling argument for investment. Few rural school administrators and school board members are well versed in computer literacy, yet, they must make decisions in an area where they have little hands on experience. Without such experience, it is a difficult task to incorporate the large amount of information available in order to make a knowledgeable choice.

METHODOLOGY

As part of a project entitled Education in Rural Areas: Documentation and Facilitation, specifically designed facilitation projects provide information networking services to school systems while monitoring process behaviors. Research staff members assist boards and administrators in locating resources that provide them with an adequate base of information for necessary decision-making. The school systems benefit from a positive and direct relationship between researchers and practioners. Information flow is more direct to specific sites and in a more general sense, topics addressed are often of interest to systems in other areas.

Faced with the question of whether to fund the purchase of computer equipment and to what extent, the Board of Education at a designated site within the above project requested that a member of the research staff explore how other systems had gone about the decision-making process and to what degree other school systems had invested in computers for their schools. Focal questions of the acquisition study were: 1) objectives for computer use, 2) experience and interest of decision-makers, 3) outside input sought, 4) hardware selected, and 5) funding resources utilized.

The study on computer acquisition relies on in-depth interviews with seven selected rural school systems. Four systems are sites in which the above project maintains ongoing contact. The additional three systems are in neighboring counties which provided a degree of familiarity and accessibility. Differing substantially in size, they also varied considerably in the degree to which they had invested in computers for their schools. Purchase was funded from a variety of sources and was generated by different interests within each school system.

DISCUSSION

A brief review of the acquisition process in the seven systems follows. Information will be presented on how initial interest in acquiring computers came about, the decision-making process, funding sources, and hardware selected. Factors of the acquisition process which noticeably benefited utilization will be discussed.

School District #1 requested the acquisition study. Following initial interest expressed by a high school math teacher, a committee was set up consisting of several teachers, a student, other support staff within the system, and a research staff member. This committee made a proposal to the

Board of Education specifying the equipment they would like to see purchased. The Board, at this time, requested additional information from the research staff regarding other systems' acquisition process. After receiving such information, and after further budget and curricular review, the Board agreed to fund the system requested. A Radio Shack TRS 80 mainframe system was purchased for a high school lab from block grant funds. Two programming courses were offered for the following school term.

School District #2 was also in the process of review and purchase of equipment. It is a small, independent school district located in a predominately rural county. Interest was initiated by parents who voiced concern to administrators that computer programming was an area lacking in the high school curriculum. Subsequently, a group of teachers, administrators, and board members reviewed available hardware and determined use priorities. Relying heavily on direction and evaluation assistance from a regional educational cooperative, this group spent time in actual hands-on experience with selected hardware. As a result of this process, the Board decided to add an additional staff person to teach computer science, and to purchase a system having a master terminal with multiple terminal units. Funds for purchase came from a special voted tax account.

School District #3 also had no in-school computer equipment at the time of the interview, but unlike the previous two systems, had no immediate plans for purchase. This system felt that the budgetary situation was too tenuous to allow for large scale purchase of computer equipment. This system did have a vocational school within its district, allowing high school students the opportunity for computer instruction. Also, personnel within this system were developing access and acquisition of equipment for their students without direct expenditure to their system. The County Supervisor for Special Education Programs applied for a radio station "Crusade Grant" for purchase of a terminal and software to be used with her students. The local 4-H agent made available to students in the Gifted/Talented Program computers on loan from a regional University. Another local University offered programming as an evening college course at the local high school. Considering that this school system had not actively pursued purchase of equipment, many opportunities were established for students and community members to become acquainted with and skilled in computer literacy.

In School District #4, computer instruction has been designated as a priority by the Superintendent and the Board of Education. Within a year, administrative staff reviewed and selected equipment to be used in their Title I and Migrant Programs for computer assisted instruction (CAI). Twenty-four staff members enrolled in a programming course offered by a local University, and plans were made for expansion of programming courses in the high school. By the end of the year, microcomputers were in each of the six schools in the district. Teachers have been encouraged to become familiar with computers at their own pace, by focusing on literacy, programming, or curricular applications. This has led to a general attitude of acceptance and has encouraged purchase of equipment for other curricular areas.

School District #5 began purchase of computer equipment four years ago. Prompted by local job market demands, the high school Principal along with a math instructor began to review available hardware and budget constraints. When approached, the Superintendent and Board were very supportive. Several board members were familiar with computers through jobs in programming or related fields. The school system initially purchased three fairly low capability microcomputers and have more recently added two Apple II terminals. Because of budget limitations and curricular programming priorities, little software was purchased. It is now an objective of their programming classes to provide CAI tutorial software programs for lower grades and special curricular areas. This has been a supported and well-accepted practice in the system.

School District #6 has been purchasing computer equipment for four years. They are creative in their identification and use of funding sources and see the purchase of computer related technology as an ongoing and continual process. Initially, the curriculum coordinator and a high school math instructor reviewed equipment and developed a curriculum proposal for a high school course. The board was convinced of the need for computer equipment after a hands-on demonstration and voted for purchase of the requested hardware and curricular programming. The high school course has now grown to nine courses in two schools and involves approximately 190 students. Subsequently, the school system decided to purchase additional equipment for their Gifted/Talented Program. The curriculum supervisor along with selected G/T instructors in the system again made a hardware and software review. The system has since established a committee for review and evaluation in the areas of hardware, software, and curricular programming and employs one staff member part time to work on goals and objectives for computer acquisition and use. Within this system there has been purchase of equipment through the teachers' fund (for a unit to be used for teacher training) and a PTA at one of the local elementaries. The system has also purchased software for its foreign language department with a grant from the National Endowment for the Humanities.

School District #7 began purchase of computer equipment several years ago for their Gifted/Talented Program. Initially, only those directly involved with the G/T programs were involved in the selection process. In subsequent acquisition, a wider scope of input has been sought. In response to student and parent interest, the school system expanded the math curriculum and two years ago added a computer lab. Currently the school system has a task force made up of administrators, teachers, and parents to review curricular programming priorities and direct acquisition and use of computer technologies. The school system sees this task force as a successful and important link to the parents and community. Through this committee there is established an ongoing dialogue which provides the opportunity for broader input into and examination of curricular programming.

This brief review of seven systems' acquisition process highlights several tangible factors which enhance utilization of equipment. Acknowledging the initial source of interest in computers provides a key to curricular application. Put computers in curricular areas where there is interest to use them. Let teachers become familiar with the technology at their own pace. Seek out information by utilizing resources within your community for assistance in purchase and acquisition. Students are a resource in themselves. Use their ease and excitement with the medium to create energy for adaptation to the new technology.

CONCLUSION

The study suggests, in a more general sense, that the level of board and administrative involvement and support in the decision-making process is an important determining factor in the effective implementation and utilization of computer technology. When boards show initiative in the acquisition process by becoming involved in the decision-making procedure, by screening alternatives, and by considering use and objectives, a message is sent to others in their system that interest and initiative are encouraged. Should the board and administration assume a defensive posture with regard to the question of computer acquisition, the climate for eager development and innovative ideas will evaporate.

School systems, and especially rural schools with limited resources and curricular programming constraints, must do preliminary planning to establish an effective and successful computer program. Decision-makers must understand and establish priorities for acquisition and use. The following factors must be considered: long range and short term objectives; whether the use will be primarily CAI or programming instruction; whether use will be on an elementary or secondary level; arrangements for funding to provide continuing support in the areas of teacher training, software, and support services.

Many systems buy equipment with little forethought given to its use once in the school. They neglect to consider what software is available for the system, then are frustrated when they are unable to acquire the necessary tools to make their system workable for its intended purpose. Many experts recommend that as much or more money be budgeted for software as for hardware equipment. The computer's place in the overall scheme of the instructional program should be one of the first issues considered; what software is available to accomplish the goals of your program should be considered next; and finally, your school should look at the hardware available.

A vision of what the program could be like in five or ten years is important in influencing purchase recommendations. No one is able to totally conceive of future developments in this rapidly growing industry, nor is the suggestion meant to imply that educators at the local level somehow define their situation ten years down the road. It is important, though, to consider the system's growth potential, to do some imagining about possibilities, to spend some time thinking about necessary capabilities. Too often those involved in this process become constrained with a kind of tunnel vision, confined by money figures before them or a limited idea of resources and applications. An effort should be made at this stage to explore situations which exist in the immediate area, or in the state, which might point to alternatives and innovations in acquisition and use.

Attention, too, should be given to the make-up of the decision-making group. Members who have diverse specialization and backgrounds force the consideration of varied use and promote open communication and productive relationships. Community input and parental support are elements which enhance and strengthen the success of the acquisition process. Without such input, attempts to introduce new technology into the schools may be met with resistance from the public. There are members of the immediate community who are well versed in computer literacy. These individuals should be called upon to offer input and advice in the decision-making process. They can broaden the level of expertise and ease transition into this special area of information.

The decision-maker does not have to be totally absorbed in the latest developments and equipment available. Neither does the decision-maker need to be fluent in the jargon to be able to screen alternatives effectively. An attitude of inquiry and an openness in addressing concepts which may at first be unfamiliar are more necessary requisites for a successful decision-making process. By incorporating these factors in a basic and preliminary stage to the final decision-making, the school system is more likely to spend its money wisely, establish a strong and directed program, and encourage innovative and productive use of the system they acquire.

* Information included regarding national statistics of computer acquisition come from transcript 1769, the July 8, 1982 broadcast of the MacNeil/Lehrer Report. WNET/Thirteen, 356 West 58th Street, New York, New York 10019.

LOOKING INTERNALLY: ONE RURAL SCHOOL SYSTEM'S RESPONSE TO THE CURRENT DECLINING ENROLLMENT TREND

by

Reba Rye

INTRODUCTION

Public school systems across the country are facing a time of flux with changes which are inevitably interrelated and which share a common denominator, financial dilemma. Declining enrollment trends on the kindergarten and primary levels, projected cutbacks in rate of increase in federal aid as the "New Federalism" takes hold, a new found fiscal prudence on the part of many states, and hesitancy on the part of economically burdened populaces to increase support for their schools through increased taxation are all examples of such changes. Actions in four rural central Kentucky school systems have demonstrated, in various degrees and ways, understanding of the necessity to look internally for answers to the problems caused by these changes. The nature of their responses has been largely influenced by their financial situation, their historical and current relationship with the communities they serve, and the personal attitudes of each administrative staff and board.

One of the school systems, Henry County, has taken steps of interest to other rural educators in that they emphasize the value of flexibility and creativity in addressing unique local concerns. These actions seek internal answers and thus deviate from the long established pattern of reliance on federal and state solutions for all needs. They emphasize that no problem can be viewed in isolation and that responsiveness to local concerns is an important ingredient in establishing mutual trust and support with the community. Programs described herein were generated either directly by Dr. Robert Haynes' initiative since his arrival as superintendent in 1979-80, or by his fostering and encouragement of the concepts.

This paper describes Henry County's approach to several interrelated problems, one of which is the current trend toward declining enrollment at the elementary level. When viewed as a financial problem, the declining enrollment situation becomes only one of several manifestations of monetary dilemma. The answer to a great deal of this combined financial shortfall lies within the schools and their communities and requires inventiveness and a rekindling of the old school and community romance. A considerable section of this paper, therefore, is devoted to various steps being taken to alleviate the financial crunch and at the same time retain an acceptable level of improvement. There is also emphasis on the need for "fitting the puzzle together" in terms of viewing all problems and needs within the total context of the individual situation, including historical relationships, internal resources, and political responsiveness. Primary focus is on the superintendent's long range plan to reorganize the grade divisions and ultimately revitalize the elementary schools. Secondary information is included to provide details about the ways in which the total context of the situation has been taken into account in seeking solutions to this particular problem. A series of programs are described which demonstrate the use of internal and community resources and talents, the building of school-community relations, and the implementation of programs with a minimum of funds.

METHODOLOGY

This paper is one part of ongoing research conducted under a three year grant entitled Education in Rural Areas: Documentation and Facilitation. Within the grant, research on the historical development of the three counties and their school systems contributes to the grounding of researchers and provides background for ongoing observation of such factors as organizational structure and school-community interaction. Researchers observe pertinent school and community committees, meetings, and activities; conduct individual interviews with school personnel, board members, and community members; and conduct facilitation projects in conjunction with the schools. Each researcher resides in the county where the bulk of her research is being conducted and this fact is integral to the methodology. The bulk of the materials relied upon in this paper were gathered by the author through observation and interviews in Henry County.

DISCUSSION

Henry County is a rural, agricultural county of 12,740 inhabitants occupying 287 square miles. The largest town, Eminence, population 2,259, has its own independent school system. The county seat, New Castle, population 883, hosts the county high school, middle school and one of the three county elementary schools. The Henry County School System ended the 1981-82 school year with one county-wide high school, grades 9-12, 583 students; one county-wide middle school adjacent to the high school, grades 6-8, 465 students; and three elementary schools, grades K-5, 880 students.

The grade reorganization plan, which is the primary instrument for addressing the problem of declining enrollment at the elementary level, involves relocation of the sixth grades from the centralized middle school to the three regional elementary schools, and relocation of the ninth grade to the middle school facility. Two assumptions guide the plan. First, the current declining enrollment at the elementary level in Henry County is viewed as a short term phenomenon and one which should be addressed as such. It is anticipated that the decline will be offset over the next three to ten years by some level of continued in-migration from nearby urban centers and by the current national attitude favoring extended child bearing years.

According to population forecasts by the University of Louisville's Urban Studies Center, Kentucky's official population research and information agency, Henry County can expect a slight decrease in the 5-9 year old age group between 1980 and 1985. Current statistics support this forecast. Two elementary schools are experiencing a total decline of sixty-nine students; the third school is holding even in growth for the 1982-83 school year. The Center forecasts, however, that

1985 through 1995 will see a return to slight population growth in the same age group, another declining span from 1995 to 2010 and then a return to a more substantial increase rate.[1]

The second guiding assumption is that the enrollment situation is not an isolated problem. Addressing the full extent of the problem involves activating a program aimed at enhancing school and community relations, being flexible and creative in seeking internal answers to local issues, and maintaining a sense of timing and political acumen in seeking increased local financial support.

In addressing declining elementary enrollment, a phenomenon usually perceived as a problem, the grade reorganization plan becomes a solution to several other problems: 1) overcrowding at the high school level; 2) community and school disenchantment with certain aspects of the middle school concept; and 3) the projected difficulty in mustering community support for necessary future physical plant improvements.

Relocating the ninth grade to the middle school and the sixth grade to the elementary school addressed the first problem by providing much needed space relief for the high school in 1982-83. The 1981-82 school year saw 593 high school students in a building designed to accommodate 450. Approximately 577 students would have been housed in the high school in 1982-83 had the downshifting not occurred. Relocating the 142 ninth grade students in the middle school left a total of approximately 435 students at the high school. The sixth graders were relocated to the three elementary schools, two of which could identify extra classrooms due to the declining enrollment. The third elementary school, which had held even in growth, made an additional room available through minor physical plant changes. Since the middle school building is adjacent to the high school, ninth graders will still have access to certain curricular and extra-curricular activities at the high school.

The second problem area addressed is the fact that the open-classroom middle school, built in 1971, has elicited negative reactions to many aspects of its structure and methods from parents, students, and staff. The open classroom concept was not functioning as designed, for reasons beyond the scope of this paper. In addition, many parents felt that sixth graders were not old enough to properly handle the freedom and exposure to more mature values associated with the centralized middle school. In response to ongoing complaints regarding the open-classroom concept, the board approved construction of partitions for the 1981-82 school year.

While aspects of the middle school concept that have proven more functional are being retained, the curriculum structure has been gradually revamped. Teachers have returned to their former roles as focal points for instruction. Individualized learning packages have been retained only as supplemental material for both remedial and overachieving students, and "leveling" has been retained in the areas of math and reading. The salient point is that the school is attempting to be politically responsive in doing away with "middle schoolness". Thus the courtship of community begins. Adjustments away from the conventional open-classroom middle school concept helped to accommodate the new grade levels.

The third problem area that the grade reorganization plan helps address is future construction. Dr. Haynes projects that there will be a need for improvement construction within the next ten years and realizes the difficulties of gaining public support for a bond issue. Any construction would be considerably less expensive, as well as more popular, at the locally oriented elementary schools than at the central high school. Long range plans thus involve an "Instructional Center" at each elementary school composed of a multipurpose unit including an elementary library, conference room, audio-visual center, and a mini-auditorium. This space would provide a central community facility for school-related activities and would aid in enhancing school and community interaction, which has been impaired by years of consolidation and emphasis on schooling outside specific communities. These measures will, hopefully, enhance the possibility of soliciting public support for the "Instructional Centers". Teachers will have direct architectural input, community in-kind as well as direct aid will be solicited, and school labor and talents will be utilized in construction as much as possible.

Dr. Haynes initially gauged parental attitudes to the grade reorganization plan by discussing it with with his staff and the Parent Advisory Committee and subsequently entertaining phone calls from parents wishing input. He see this as desirable to unilateral decision making on the part of the school. He was careful to outline specific changes that would accompany such reorganization and to answer questions concerning potential problems. The board and superintendent did not receive any complaints about the reorganization, which can be taken as an indication of strong public and parental support.

The financial problems associated with declining enrollments, various federal and state cutbacks, and taxation frugality are being addressed in Henry County as demonstrated by various programs aimed at cost reduction and use of internal resources. The superintendent and board are also attempting to cultivate the trust of the populace and have designed several projects aimed at soliciting community input and resources. Outlined below are examples of some of these projects and ways in which individual school systems can begin to seek more self-reliance. The first example is the construction of classroom partitions at the middle school.

With a minimum of building funds available, a series of steps were initiated to implement the plan at low cost as a major "test" project for using internal talents and labor. An architect working with the staff and state department of education developed the plans. The school maintenance foreman is a licensed electrician, master plumber, and carpenter, and could legally oversee the construction. Student workers and recent graduates were utilized for a large part of the actual construction. The building modification, creating visual and sound barriers, was completed at one-half the cost of hiring an outside contractor. Community reaction has been positive and the citizens generally feel that the system was responsive to adverse reaction to an unacceptable situation.

A Gifted-Talented program for grades three through twelve is a second example of a low budget community input program. After an initial grant of $1,000 in 1979-1980, the board assumed responsibility for continuing the program at a minimum cost. The counselor at the middle school assumes

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[1] Brockway, James M., and Clarence T. Murdock, How Many Kentuckians: Population Forecasts, 1980-2020, "The 1981 Preliminary Update," (Louisville, KY: University of Louisville Urban Studies Center Population Research Unit, 1981), p. 48.

organizational responsibility for the program in addition to her other duties. They utilize local and regional volunteers and provide minimum honoraria for special programs, workshops and retreats.

As have many schools across the country, Henry County has invested in computers. There are twelve Apple computers in various functions within the system, six of which are used for computer programming classes. The ultimate goal is to convert part of the older building that serves as board offices into a computing center at which adult classes will be offered as well as high school curriculum classes. Dr. Haynes has begun the process of developing a community campaign to raise the necessary funds for this project which will directly benefit the community as well as indirectly benefit it through advanced curriculum opportunities for the youth of the county. A primary focus in fund raising will be to solicit endowments from well-to-do older citizens in anticipation of a computer center dedicated in their names.

Numerous smaller projects, such as installation of student lockers over the summer, have been executed with school labor and resources, as opposed to the previous practice of contracting with outside vendors. Painting, repairs, and refinishing old student desks were all completed by school employees and CETA student workers.

These attempts to utilize internal resources are coupled with an active program initiated by the school aimed at improving school and community relations. The program involves attempts at educating the community about the functioning of the school and its current situation. "Superintendentgrams" go out to various community members periodically. The school remains very visible on the page of the county newspaper, where photographs and stories of the school's activities and accomplishments are prominent each week.

A Parent Advisory Committee was established to act as a liaison between the school and the populace. All PTA Presidents are members. They and other interested parents, representing each board member district, comprise a committee of twelve people. They meet approximately five times per year and membership rotates biennially. This committee serves two primary functions: 1) it is a source of direct input to the administration from the community, and 2) it is a core group to facilitate communication from the superintendent to the community. The members take their role seriously and are made to feel that they are integral to the decision making processes of the school on a certain level. One of the retiring Parent Advisory Committee members is currently seeking election to the school board.

CONCLUSION

In outlining the general approaches to the particular situation in Henry County, no conclusions regarding a long term evaluation of the effectiveness of these programs and directions can be made at the present time. It is important to realize that the solutions described are for a particular site, and all such solutions are peculiar and particular to their specific site. Rather than attempting to adopt generalizations or ideas imported from the federal or state level or from another site, the Henry County administration used the problem as the basis for addressing their own short and long range needs. Declining enrollment thus becomes one factor among many in considerations about improvement adjustments for the school system, rather than isolated problem to be "solved" with some distant person's magic formula.

The importance of individual administrative initiative, creativity and clarity of purpose cannot be overemphasized when considering programs out of step with the "standard" way of doing things. That illusive quality--inherent in a good administrator--of fostering similar visions and expectations within the staff and being able to identify staff capable of executing the plan is essential to success.

Much of the dilemma facing school districts is the result of the effect of years of "packaged" solutions in the name of standardization. Too many school districts have been impaired in their ability to seek self-determination and to rely on local analysis and resources. When approached with clarity of purpose, attention to local circumstances and reliance on local analyses and resources have the potential to reemphasize local distinctions as opposed to mass standardization and to regain healthier school and community relationships.

AUTOMATED LEARNING, INDIVIDUAL INSTRUCTION AND COMPUTERS IN THE SMALL SCHOOL CLASSROOM

by

O. L. Dorsey and Jerry Burleson

In 1980, the authors explored the possibility of use of computers as educational tools in the small schools of West Texas. It was apparent that microcomputers were coming down in price to the point that the technology would be imposed on the schools if voluntary action on the part of professionals was not taken. What steps must educators take to meet this demand, and what were the likely consequences if they did not, were questions to be answered. History suggests that a technology will play a central role in the public schools if it gains cultural acceptance and becomes a common work tool. When the public makes the decision for the technology, there will be public demand for schools to adopt the technology and provide training in its use. Stanley Pogrow in the KAPPAN (May 1982) expresses the authors' belief that the U.S. is experiencing economic changes today that have not been paralleled since the industrial revolution when employment and production shifted from the farms and homes to the factory. Dr. Pogrow further states that as economic pragmatism fuels the adoption of new production of new technology, the cumulative impact will be to alter the nature of work. Routine work of today will be replaced by more technical work of performing logical and creative operations with electronic technology. The youngsters now in the elementary schools will be painfully aware of this switch. Because work is becoming increasingly technical, those students acquiring minimal competencies run the risk of being functionally illiterate and unemployable in 1990.

The elementary school in Big Lake, Texas was the institution for the pilot program chosen because the principal had a desire to experiment with microcomputers in the elementary school as a teaching tool and for literacy's sake. The school is the elementary school serving Reagan County, which is somewhat isolated, being located some 60 miles from the nearest urban shopping center. The elementary program serves approximately 550 children in grades K-6. It was decided that the first computers would be used as tools for those students who needed special help in arithmetic, and who were not under the tutelage of the Special Education teachers. Teachers were not involved at first for several reasons. They had a teaching load already and there was some anxiety about the new technology. Instead, teacher aides were taught by the principal to operate the computers and to allow some 60 youngsters to work at five stations. The stations were created with one disc drive, five CPU units and one printer. Each child had fifteen minutes each week using the Millican math series which kept cumulative records. The Millican program was chosen because it is arranged by level of difficulty in addition, subtraction, and other arithmetic operations. Each student selects a level and solves the problems. The program is linear so that the student moves to a higher level of difficulty upon successful achievement of the beginning level.

If the student misses an answer three times, the answer is presented before moving to another problem. The software is designed to show cumulative scores to teacher and parent at the end of each session. Resulting progress of this group of students was apparent in Science Research Associates (SRA) achievement test scores at the end of the year. No statistical methods were necessary to see the obvious improvement in math scores from 1981 and 1982.

SRA SCORES
GRADE EQUIVALENTS IN YEARS - MONTHS

Year	Class			
1981	First Grade	Math	1 year	2 months
		Reading	1 year	4 months
1982	Same class in Second Grade	Math	3 years	0 months
		Reading	2 years	5 months
1981	Second Grade	Math	2 years	6 months
		Reading	2 years	2 months
1982	Same class in Third Grade	Math	4 years	7 months
		Reading	3 years	9 months

It is to be noted that these grades enrolled 52% Hispanic surnamed students.

The success is best described in author Burleson's words at that time:

The day our computer was installed, we were in the middle of In-Service Training for the faculty. The confusion was incredible. However, within three days everything was installed, people were trained and operations had begun to educate our children in mathematics with the Educational System.

My original reason for buying the computer was to educate the slow-learners, to give them a little 'help' with a subject that was difficult for them. The plan was to give each student individual time alone with the computer. We set up the main disk drive in the library and had five terminals operating from it.

My fears were soon laid to rest. The children loved the computers and accepted the challenges as they were presented on the screen with enthusiasm. Something I hadn't seen in a long time.

A short time later, I decided that if this was working so well with slow learners, why not introduce it to the entire student body? We set up a system whereby each student had fifteen minutes a week on the computer. Fifteen minutes didn't sound like much time to me, but the way the educational program is set up, the students were moving right along at a steady pace. But the unique part about it was that each child moved at his own rate and the computer automatically advanced him or kept him where he was until he was ready to move on.

Life with the computer was not all work, either. We set up Friday as 'Fun Day'. The students were then allowed to select their own subject (addition, subtraction, multiplication or division) and then try any level they wished to attempt. Though the day's math work was all in 'fun', the children were constantly being exposed to the learning techniques, picking up needed information at all times.

The computer let the students know what level they were operating in (Kindergarten thru sixth grade) and personalized their input with messages on the screen that delighted them. "Good work, Tim", "Try one more time, Sarah", or "Congratulations, you can go on to the next level", were just a few of the added attractions of the computer. The children were working on a one-to-one basis with the computer and were not at all afraid of it.

In addition, we have introduced Classroom Management to our instructors on a voluntary basis. This will allow a teacher to keep individualized records on each student as to the educational objectives she has planned. I feel this will be a definite advantage for us in the area of the Texas Assessment of Basic Skills (TABS) test required by state law. Basically, we set up the objectives on the computer so that each child should have them mastered by the time he is required to take the TABS test.

I understand that Reagan County Elementary was a 'Pilot Project' for the computer instruction. The project couldn't have pleased me more. I knew the students were improving in the area of mathematics overall, but didn't know exactly how much until our yearly SRA test results were received. It was absolutely amazing. I honestly did not expect such fast results after such a short period of time on the computers. Every student in every grade showed a better overall grade improvement in math than they ever had in the past."

In 1981 and 1982, the authors looked at the problem of teacher training. Since there were few programs to learn from, a beginning was through in-service delivery. The authors developed a presentation to teachers with machine demonstration showing the micro-computer as an educational tool. Nine elements made up the presentation:

1. An introduction to Computer Managed Instruction (CMI)
2. The computer as a classroom management tool
3. Information storage/retrieval via the computer
4. Simulation and model use
5. Classroom management uses of the computer
6. General programming skills
7. Application of CMI in the various disciplines (math, reading, physics, etc.)
8. Applications in computer science
9. Special educational application (use with handicapped, gifted, vocational, etc.)

Over 300 teachers from 33 small schools participated in these presentations. The teachers tended to fall into three groups: those who pursued no further interest in CMI, those who had interest but refused to move further into professional development until their school district furnished computers for their classroom, and those teachers who wanted to develop computer skills immediately. For the latter group, further training was offered in workshops at Southwest Texas State University and other universities. Elementary teachers tended to have less anxiety about learning computer skills than secondary teachers did. For those teachers where follow-up workshops were possible, much time was spent on teacher use of the computer for periodic and repetitive subject matter in order to save teacher time for affective classroom material. The teachers were also introduced to record keeping and general planning through computer operation. The fullest benefit of individual student diagnostic and prescriptive capabilities of CMI were not accomplished in the initial seminars but were introduced. Maintaining grade books and student profiles were especially appreciated by the teacher. Many of the teachers worked after school to learn computer skills, and peer teaching techniques were observed frequently as the teachers struggled together.

Two problems were apparent from the beginning and remain so to this day. The number of machine locations per student was and is limited. The number of computer locations need to be such that a student has a minimum of forty-five minutes/week of hands-on time at the computer station. The other problem is dedicated space. The traditional elementary school has no appropriate space for computer based instruction. The library was used in this study but the need for security and teacher supervision was a problem. In construction of future schools, it might be kept in mind that a secure room similar to secondary school laboratories or business classrooms should be dedicated for CMI purposes. Interestingly, two problems anticipated to arise never did so. The maintenance of machines stayed within the ability of author Burleson. In addition, the expected teacher resistance crumbled very early and even very experienced first grade teachers, noted for little interest in change, quickly took pride in their personal new learning achievements.

In reviewing the prospect after two years, there are several things we would do differently. First, we would determine the program desired and then purchase the tutorial software. At this point, the micro-computer which will support the software would be obtained. If you buy the micro-computer first, you are limited to the software designed for that CPU, and you may be denied useful programs due to hardware capabilities.

In the future, it is agreed that three curricular areas for tutorial purposes will be maintained: math, language arts and BASIC. The first two disciplines are for all students, while BASIC will be

been nothing short of phenomenal and has them ready for much higher computer science work in high school.

The authors felt that more information was necessary to evaluate the computers as educational tools with children of age K-5. Thus, in the summer of 1982, a computer camp was offered this age group through public solicitation. The camp was based on the fact that the mind and body must be developed together, and a full resident program of arts, craft, games, recreation and computer skills were developed through a week long activity. Fourteen students participated Sunday through Saturday at Harambe Oaks Ranch in Central Texas. Computers were rented from Reagan County schools and the authors served as instructors. The ranch provided the rest of the program. Each student chose two 30 minute work periods for the computer each day and had the computer individually during this time. The curriculum was divided into tutorials (math and language arts), programming and games. Students were grouped by beginner, intermediate and advanced. Computers were available at night for each student to have time for individual follow-up to whatever suited their fancy. The students came with enthusiasm and excitement and were introduced to the computer and computer programming and all students learned to operate the computer and understood computer operation by the end of the camp. The youngest student, at age eight, did not do well with programming but developed many new skills in math and language arts. The top student who came with some knowledge of programming was able to write sophisticated programs for his personal use by day four. The authors used personally developed curricular material for teaching programming and used the six volumes of: Creative Programming for Young Minds published by Creative Programming, Inc., 604 6th Street, Charleston, Illinois 61920.

The computer camp will be offered again in the summer of 1983, to a limited number of elementary age students.

In closing, the authors believe there are four reasons why computer education should be made available to school students other than for simply tutorial purposes:

1. "Don't look like a fool." The exponential proliferation of computers in our society mandates comfortable familiarity for everyone from bulldozer operators to ballet dancers--everyone, that is, who expects to practice his trade ten years from now.
2. "Principles of operation." Even a store clerk will be a better-paid store clerk with a course in the overall workings of computers under his belt.
3. "Decision making logic." Computers teach logic better than any non-interactive system like a textbook, and teach it in ways that often closely simulate the decision-making processes of managers.
4. "Computer-aided management." Computer competence (not necessarily programming--just user-competence) may one day become a prerequisite for anyone's move into management. Those who do move into management will understand what Oliver Wendell Holmes, Jr. meant when he said "Life is action and passion; therefore, it is required of a man that he would share the passion and action of his time at peril of being judged not to have lived."

If a youngster graduates from high school with no particular skills and goes to a local corporation for a job, and if on the application he can claim ten hours experience at a computer terminal--and that's not much--the individual will be qualified for preferential positioning on the hiring scale.

Art Leuhrman, former head of the computer program at Lawrence Hall of Science in Berkeley, California, has stated that minimal programming skills--nothing fancy--translates into $1000 per year more in starting salary for a youngster going into almost any kind of job. Two 40-minute classes a week for a semester would probably more than do it. This project nearly reached that goal.

SELECTED CHARACTERISTICS AND PERCEPTIONS OF RURAL SCHOOL TEACHERS, ADMINISTRATORS AND SCHOOL BOARD MEMBERS

by

Luiza B. Amodeo, Jeanette V. Martin, and Jerald L. Reece

Recent research, as well as literature from the past, presents conflicting and confusing information about rural education. In much of the literature on rural education, the strengths and weaknesses of rural schools are discussed and summarized (O'Neal & Becker, 1981-82). Generally, the writers are in agreement on the broad issues and concur that the strengths of rural schools are based on the size which allows teachers, students, administrators, parents and community to be cooperatively involved in the educational process. Weaknesses almost always include the failure of rural schools to provide continuous, high quality education (Noble, 1981; Salmon, 1980).

One account of the strengths and weaknesses of rural schools can be found in an article published in the North Central Association Quarterly in 1974. Sturges (1974) suggests that "small schools hold the same concern for quality education as their big city brothers..." (p. 291). While that may be the case, rural schools continue to be plagued by a number of problems over which they have very little control: preservice preparation of teachers; lack of professional services and educational resources; low tax bases; and low socioeconomic white and minority groups (Amodeo, 1981).

Charles (1969), in a study of rural teachers, reported that 97.4% of the teachers felt they were inadequately prepared to teach in rural schools. Some of the concerns centered on their lack of preparation in a greater number of subject fields. Maintaining a quality staff of teachers is a principal problem of rural school administrators according to Moriarty (1981). While there may be a number of applicants, finding teachers who can effectively deal with geographic isolation, population diversity and sparsity, and the rural lifestyle is difficult. Morarity (1981) suggests that teachers who lived in rural communities when growing up, or who did their student teaching in a rural setting, usually have less difficulty in adjusting to rural teaching conditions.

The lack of professional services and educational resources further compounds the problem of quality of rural teachers (Becklund & Gaashold, 1980). Inservice and staff development opportunities are limited by geographic isolation and the unavailability of adequate delivery systems. The absence of support services, educational as well as health, and social, career and personal counseling, creates additional problems in rural communities with economically deprived groups.

Charles (1969), Morarity (1981), Muse and Stonehocker (1979) are researchers who report the perceptions of rural teachers and administrators in their studies. These are important studies since it is essential in research on rural schools to include information from those who are actually involved so that rural values, concerns, frustrations, aspirations and goals are reflected.

This study looks at the perceptions of school board members, principals, and teachers regarding the preparation of their teachers and the availability of professional services as well as educational resources. An analysis of financial conditions and a demographic survey of the sample populations are included in order to present a more complete picture of the rural population surveyed.

In the Spring of 1982, the researchers applied for and received two grants which were designed to focus research on rural educational concerns. One grant, which is funded by the North Central Association Commission on Schools' Research Committee and the Department of Curriculum and Instruction, New Mexico State University, targets on a comparative analysis of programs and perceptions of various constituencies in accredited rural schools, as opposed to those in non-member rural schools, to determine values accrued from North Central Association accreditation.

The nine western-most states of the North Central Association region were chosen as the target population for this study because of their high percentage of rural schools and what is perceived to be common problems associated with their rural school populations. The states include Arizona, Colorado, Kansas, Nebraska, New Mexico, North Dakota, Oklahoma, South Dakota, and Wyoming. Identified schools included all accredited rural schools matched with non-accredited rural schools not currently applicants for NCA membership. Factors which are being studied include: teacher assignment; types and extent of inservice programs; preparation of teachers; characteristics of community and school; extent of curriculum offered; and perceptions of school board members, teachers and principals.

The second grant is funded by the Educational Research Center, College of Education, New Mexico State University, and extends the North Central Association grant to focus additionally on factors specific to the State of New Mexico: i.e., multiethnic education; demographic profile of the rural teacher; teacher, administrator and community interrelationships; and cultural and ethnic considerations. All rural schools in New Mexico have been contacted. Broad and general questions are being addressed in both research projects. These in turn, have been broken down into specifics for the purpose of the survey instruments used. These instruments were developed for teachers, principals, and school board members.

In May a pilot study to validate the NCA questionnaires was conducted in Arkansas. This appeared to be an appropriate area for a pilot study since it currently has seven member rural elementary schools and 26 member rural high schools. Since no rural junior high/middle schools currently hold membership, two schools were selected from the six which were located in towns under 5,000 population. Of the member schools, two rural elementary and two rural high schools were selected. These schools were matched with non-member schools. A total of 11 schools agreed to participate. Questionnaires were sent for all teachers, the principal, and school board members with instructions that the principal should return teacher and principal questionnaires, with board members returning theirs separately in the self-addressed stamped envelope provided,. This same procedure has been followed with the Nine-State Study and the extended New Mexico Study. Returns were sufficient to aid in the revision of the questionnaires for the Nine-State Study.

Questionnaires for the Nine-State Study were sent out in September to 140 NCA member schools and [illegible] member schools. The questionnaires have been returned on a regular basis and are sill being [illegible] school board members have replied.

A preliminary review of the data suggests some interesting factors to be considered. These data are presented through tables on the following pages. Implications of these data are the topic of this presentation.

As indicated in Table I, 192 teachers have responded of which 104 are elementary and 88 are secondary teachers. Of the 43 principals, 12 are elementary and 31 are secondary. Sixty-five percent of the respondent teachers were female while 91% of the respondent principals were male. If these trends continue through the larger study, it would appear that women predominate the teaching ranks in rural schools. It would also appear that a smaller percentage of rural principals are women than is the case across the nation in all schools. According to the National Advisory Council on Women's Educational Programs, 14% of all public school principalships were held by women. Only nine percent of the principals in this preliminary study were women.

TABLE I

DATA ON RESPONDENTS - PRELIMINARY

	Male	Female	Total	Elem	Secondary	Total
Principals	39	4	43	12	31	43
Teachers	67	125	192	104	88	192
School Board	41	5	46	-	-	-
TOTALS	147	134	281	116	119	235

The preliminary study included returns from only 46 school board members. Of this 46, only five (11%) were women. Again, if this trend continues throughout the study, women hold few leadership positions in rural schools, either as principals or as school board members.

The preliminary returns included schools on Indian reservations. This influenced the pattern of ethnicity among respondents. As indicated in Table II, eight percent of the 257 individuals who reported ethnicity indicated they were American Indian, while five percent were Hispanic, five percent were Black, and one percent were Asiatic. A total of 81% reported "other." Eighteen percent of the principals were ethnic minorities, while 22% of the teachers were ethnic minorities.

TABLE II

ETHNICITY AND LANGUAGE PROFICIENCY OF RESPONDENTS

	Language Proficiency			Ethnicity				
	English Only	One Language Other Than English	Two or more Languages In Addition To English	American Indian	Asiatic	Black	Hispanic	Other
Principals	34	8	0	1	1	1	4	33
Teachers	141	23	15	18	2	12	7	140
School Board	32	5	0	1	0	0	2	35

Of the 258 individuals responding to the languages in which they were proficient, 80% indicated that they were proficient in English only. Fourteen percent indicated proficiency in one language other than English, while six percent indicated proficiency in two or more languages other than English. Approximately the same percentage of principals and teachers were proficient in English only. No comparisons have been made at this time with the percentage of students in these rural schools who are bilingual or are native speakers of a language other than English. It would appear from this preliminary data that ethnicity of rural teachers does not match the ethnic ratios in the broader population of the United States since the majority of these teachers and principals are of Anglo-Western European ancestry.

Only one-third of the teachers reported having less than five years experience in the rural school in which they were currently teaching, while nearly 51% of the principals who reported indicated they had held that principalship less than five years. Sixty-seven percent of these teachers, compared with 49% of the principals, had been in the school in which they were currently assigned for more than five years. In viewing Table III, it appears that teachers tend to remain in the same rural school to a much greater extent than did principals. This factor may influence the style of leadership

principal. It has been noted by the authors that many rural principles capitalize on the extensive experience of their teachers in providing inservice activities and even seek advice in regard to administrative matters from teachers with longer tenure in the school. These latter reflections do go beyond the data provided in the preliminary study.

TABLE III

EXPERIENCE OF RESPONDENTS IN RURAL SETTING

	Teaching		Administration	
	In Rural Setting	In This School	In Rural Setting	In This School
Teachers:				
Less than 5 years	-	61		
5 to 14 years	-	83		
15 or more "	-	39		
Principals:				
Less than 5 years	9	16	16	19
5 to 14 years	13	4	11	12
15 or more "	6	5	6	6

Table IV indicates the highest level of education achieved by the various respondents. All principals reported holding the master's degree or higher, while only 46% of the teachers held the master's degree or beyond. Seventeen percent of the principals held the Ed.S. or doctorate while only one percent of the teachers held the Ed.S. degree. Rural school principals, at least in this rural school study, have attained a considerably higher level of education than have the teachers in the schools they administer. Little difference was noted in levels of education achieved by either elementary or high school principals or by elementary or high school teachers in these rural schools. Twenty-seven percent of the principals and 34% of the teachers indicated they were working toward higher degrees.

TABLE IV

ACADEMIC PREPARATION OF RESPONDENTS

Highest Level of Education Achieved	Teachers				Principals				
	Completed		In Progress		Completed		In Progress		School Board
	Elem	HS	Elem	HS	Elem	HS	Elem	HS	
Less than 12 years									0
High School Diploma									12
Attended College									10
Associate Degree									4
Bachelors Degree	55	46					1		10
Master's Degree	29	28	22	16	5	9			4
Master's Plus 30 Hours	15	11	6	9	5	15	2	1	
Ed.S. Degree	2	1	2	1	1	4	1	4	
Doctoral Degree	0	0	2	4	0	2	0	2	5

When queried about the ways in which they had received preparation for teaching in a rural setting, it is noted that none of the teachers or principals in this preliminary study reported having taken specific courses designed for rural schools. It is also noted in Table V that only seven (4%) of these respondents believed such separate courses would be the most appropriate approach for preparing teachers for teaching in a rural setting. Only nine percent of the teachers and no principals

18% of the teachers and 13% of the principals believed this would be the most appropriate approach for preparing teachers in rural schools. Twenty-three percent of the teachers believed inservice workshops were the most appropriate approach. Nearly 80% of both teachers and principals reported having no specific preparation for teaching in rural schools. Forty-one percent of both groups believed specific preparation was inappropriate. This latter finding appears to be inconsistent with the results of other earlier studies in which rural teachers and principals have indicated a great need for specific preparation for teaching in rural schools. It will be interesting to see if this trend continues in the larger study underway.

TABLE V

PREPARATION FOR TEACHING IN RURAL SETTING

	Ways Rec'd Preparation For Teaching in Rural Setting		Most Appropriate Approach for Preparing Teachers	
	Teachers	Principals	Teachers	Principals
Specific Courses Designed For Rural Schools	0	0	5	2
Specific Content Related to Rural Schools in Regular Courses	15	0	26	4
Program Designed For Teaching In Rural Setting	4	0	17	9
Inservice Workshops	6	3	34	3
Attending Conferences	8	4	5	1
No Specific Preparation	125	31	60	13
TOTALS	158	38	147	32

The data shown in Table VI indicates the number of teachers, principals and school board members who indicated either satisfaction or dissatisfaction with certain aspects of the educational program in their schools. No great dissatisfaction with any of these aspects was shown by any of the three groups. Over 90% of both teachers and principals expressed satisfaction with classroom activities, teacher evaluation of student progress/achievement, opportunities to innovate, and administrative support toward innovative practices. Principals were also highly satisfied (97%) with the textbooks used, while 84% of the teachers also expressed satisfaction with textbooks used. School board members responded to only two equivalent aspects of the program. Seventy-four percent of school board members responding, as compared with 90% of the teachers and principals, were satisfied with teacher evaluation of student progress.

On the basis of the results of this preliminary study, it would appear that teachers and principals in rural schools tend to be satisfied with the quality of what they are doing with the curriculum and with textbooks being used. Principals indicated less satisfaction than did teachers with financial support for innovative practices, with the availability of inservice programs for teachers, with opportunities for teachers to attend inservice programs, and with the scope and sequence/articulation of curriculum. It may be that teachers tend to have greater satisfaction with these aspects of the school program than do principals because of their greater tenure in the school. Could it be that principals who have been in the school for a shorter period of time and who have achieved a higher school program than do principals because of their greater tenure in the school. Could it be that principals who have been in the school for a shorter period of time and who have achieved a higher level of education than the teachers realize greater inadequacies in current practices? It is important to note that the teachers and possibly principals in this preliminary study may hold the educational program in their schools in higher regard than is warranted. This point is raised due to concern in many quarters regarding the appropriateness of many textbooks for rural children, the reported lack of effective inservice programs for rural teachers, and inadequate financing found in many rural school districts.

TABLE VI

DEGREE OF SATISFACTION WITH CERTAIN ASPECTS OF SCHOOL PROGRAM

Aspect of Program	Teachers		Principals		School Board	
	Satis.	Dissat.	Satis.	Dissat.	Satis.	Dissat.
Textbooks Used	145	28	34	1		
Classroom Activities	185	5	41	1		
Teacher Evaluation of Student Progress/Achievement	168	19	37	4	34	12
Teacher Availability to Students Outside Regular Classroom	158	25	31	11		
Opportunities to Innovate	184	9	38	4		
Administrative Support Toward Innovative Practices	166	14	41	0		
Financial Support of Innovative Practices	139	39	28	11		
Availability of Inservice Programs for Teachers	139	48	23	19		
Opportunities For Teachers to Attend Inservice Programs	147	38	28	14		
Scope and Sequence/Articulation of Curriculum	155	24	28	14	38	7

Data presented in Table VII indicates the degree of satisfaction teachers, principals and school board members had with various components of the program. More than 90% of each of the three groups of respondents indicated satisfaction with only two of the 18 components listed on the questionnaire. These three components were: competence of teachers in working with rural children and youth; community support of athletics; and teacher certification for teaching in rural schools. More than 90% of both teacher and principal respondents indicated satisfaction with: the general school curriculum; teacher understanding of rural children and youth; school library/media center; transportation services; and teacher assignments. In no instance were fewer than 73% of the teachers satisfied with any component. The only instance in which fewer than 73% of the principals were satisfied with a component was in the case of inservice programs. Even in that instance, two-thirds indicated satisfaction.

School board members tended to indicate less satisfaction with the various components than did teachers and principals. In four instances, only two-thirds of the school board member respondents indicated satisfaction with components. These were: diagnosis of student abilities; use of comprehensive student reporting system to parents; school program evaluation; and involvement of students in program evaluation. Only 59% of the school board respondents reported satisfaction with guidance and counseling services. It is appropriate to note that teachers and principals also reported a lower degree of satisfaction with guidance and counseling services and with involvement of students in program evaluation than they reported in regard to most other components.

Table VIII indicates the number of teachers at both elementary and secondary levels who are assigned various extracurricular responsibilities. On the basis of these preliminary results, it appears that elementary teachers tend to be assigned a greater number of extracurricular responsibilities than are secondary teachers. Eighty-three percent of the elementary teachers reported responsibilities for two or more extracurricular activities while only 53% of the secondary teachers reported being assigned two or more. A greater number of secondary teachers reported responsibilities for coaching interscholastic athletics, serving as student council or class sponsor, and ticket selling, supervising school events and fund raising. Although these authors do not have corresponding data for non-rural schools, it would appear that a greater percentage of teachers in rural schools must assume extracurricular responsibilities than is the case in other schools.

TABLE VII

DEGREE OF SATISFACTION WITH COMPONENTS OF PROGRAM

	Teachers		Principals		School Board	
	Sat.	Dissat.	Sat.	Dissat.	Sat.	Dissat.
Community Support of Curr. Offerings	150	36	36	5	41	4
Community Support of School Athletics	166	16	37	3	43	3
Guidance/Counseling Services	140	40	30	10	26	18
School Library/Media Center	167	21	39	2	40	6
Transportation Services	166	21	40	1	44	2
Preparation of Teachers	173	14	36	5	37	8
Teacher Assignments	174	15	38	2	39	7
School Facilities	167	23	36	7	35	11
Inservice Programs	134	50	27	13	43	3
Evaluation of Student Performance	164	24	37	3	34	12
Diagnosis of Student Abilities	159	30	34	6	30	15
Use of Comprehensive Student Reporting System to Parents	156	32	33	7	29	14
School Program Evaluation	170	16	34	6	30	15
Involvement of Students in Program Evaluation	137	40	31	9	30	15
Competence of Teachers in Working With Rural Children and Youth	179	7	37	3	41	4
Teacher Certification/rural schools	175	8	36	4	39	5
The General School Curriculum	180	9	36	4	38	7
Teacher Understanding of Rural Children and Youth	174	10	35	4	36	8

TABLE VIII

EXTRACURRICULAR RESPONSIBILITIES ASSIGNED

	Teachers	
	Elem.	Sec.
Club Sponsor	5	9
Coaching Interscholastic Athletics	3	10
Coaching Intramural Athletics	5	0
Drama Activities	0	4
Student Council or Class Sponsor	3	15
Music Activities	2	4
Newspaper, Yearbook, etc.	1	6
Chaperone For Social Functions	2	1
Ticket Selling, Superv. School Events and Fund Raising	12	24
Other	11	12
Two or More	80	35

The data presented in Table IX indicates the number of preparations and separate disciplines currently included in teacher assignments at the secondary level. Forty-four percent of these teachers reported teaching four different content courses, while another 26% reported teaching three different content courses. The number of different preparations assigned varied from one to seven. Three percent of these teachers reported having seven different preparations, while 26% reported having five or more different preparations. Seventy-two percent reported having three or more preparations. Only 13% reported having a single preparation. Sixteen percent of these teachers reported teaching three or more separate disciplines while two-thirds indicated that they were teaching a single discipline. Only ten percent of these secondary teachers indicated that they were teaching outside areas in which they were endorsed to teach.

TABLE IX

NUMBER OF PREPARATIONS AND SEPARATE DISCIPLINES CURRENTLY INCLUDED IN TEACHER ASSIGNMENTS (SECONDARY)

	Different Content Courses Taught During Year	Number of Preparations Assigned	Number of Separate Disciplines Taught
One	8	11	58
Two	10	13	14
Three	23	20	5
Four	39	20	6
Five	8	14	3
Six	0	5	0
Seven	0	3	0

		Sec.
Teaching Courses Outside Endorsement Areas:	Yes	9
	No	77

In drawing conclusions based on this preliminary data, it is important to stress that the data is based on fewer than 10% of the respondents anticipated in the total study. Whether or not these individuals and schools from which they come are typical is a fundamental question. With this caution in mind, the following tentative conclusions are stated:

1. For the most part, it appears that teachers, principals and school board members are generally satisfied with the quality of the program being provided rural children and youth.
2. There appears to be less support for special preparation of teachers for rural schools than was found in previous studies. Whether or not this is typical of what will be found in the larger study is not known at the present time.
3. Principals appear to be less satisfied with inservice opportunities for rural teachers than is reported by teachers. Since rural principals tend to have a higher level of educational achievement than do teachers, it may be that they have more accurate insights in regard to needs of teachers than do teachers.
4. Teachers tend to be predominantly female, while principals tend to be predominantly male in rural schools. This appears to be true to a greater extent than is true nationally in all schools. It may be that female teachers in rural schools have fewer opportunities than do male teachers to pursue advanced degrees and administrative certification.
5. Rural teachers appear to come from the dominant American culture with fewer coming from minority ethnic groups than is found in other public schools throughout the country.
6. Teachers and principals in this preliminary study indicated that no specific preparation in rural education was needed. This is contrary to findings from earlier studies and will be considered carefully as an aspect of the larger study.
7. In the secondary schools, teachers are frequently required to teach more than two or more disciplines and have several different preparations per day. This factor is seldom considered in teacher preparation programs, but should be an essential element if teachers in rural schools are to be an essential element if teachers in rural schools are to be at least minimally qualified to handle teaching assignments.
8. In addition to teaching assignments mentioned in #7 above, teachers in both elementary and secondary rural schools are expected to carry heavy extracurricular responsibilities. Few teacher preparation programs give consideration to this aspect of roles required of teachers.

Pre-service programs should include knowledge about organization, supervision and purposes of extracurricular activities, if teachers are to be expected to assume responsibilities in this area.

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KEYNOTE ADDRESS

ENSURING EXCELLENCE IN EDUCATION FOR RURAL AMERICA: A FEDERAL PERSPECTIVE

by

Monica Edwards Harrison

I want to thank you for inviting me to join you in this fourth conference on rural education. I can't think of any place which is more representative of mainstream USA than Kansas and her neighboring states. This is one place where people don't snicker when there is talk about the old fashioned values of self reliance and hard work. They believe that a job worth doing is a job worth doing right. People here still take pride in doing for themselves and for their children. Education especially, is a sacred duty of every parent and a prerogative surrendered very cautiously to local school boards. It is surrendered begrudgingly to states and very resentfully to any federal agency. For that reason, unlike a lot of other places where I have spoken, it is a pleasure to be here and to speak to you about excellence in education and what we might do to insure quality in education for rural, as well as urban schools.

Before considering some of the concerns about what might be a long and continuing decline in the quality of American education, I think it is important to review the accomplishments of education in this country. We must remember that the successes are in the chronicles of rural America. First of all, we are talking about a major financial commitment to education. We are talking about almost $200 billion a year which this country spends on education. This enterprise involves nearly 30% of the entire United States population of approximately 229 million people. That's a lot of people involved in education on a day-to-day basis. The federal investment represents only between 8 and 9%. I think that sets a perspective for what's happening in education today.

We have this tremendous financial commitment in our country because our system is founded on laws that require us to educate everyone regardless of race, sex, national origin, religion, or handicapping condition. This is certainly not true in many of the other countries of the world. Our laws demand that every student be given not only equal access to an education, but also an education program which addresses his or her special needs. That is, we require our system to deliver not only equality of education, but compensatory efforts as well. We in this country have not taken measures to educate only the academically elite. We are the first nation in the history of the world to give everyone a chance for an education.

In our schools today, we have better retention rates, more high school graduates, more students going on to college, and more college graduates than ever before. Today, about 75% of the children in the United States are graduating from high school as compared with only 59% in 1952. In that same year of 1952, only about one-fourth of an average high school class went on to college. Today about half of the secondary school graduates enter a program of study leading toward a bachelor's degree. Certainly, we have come a long way. These things, however, point to quantitative progress. We need now to look at what we are doing in the area of quality.

We can find a lot to brag about in the area of quantitative progress, but we also have some causes for concern when we turn to examine the quality aspects of American education. I know that you share those concerns. I know that you have spoken with parents in your communities about them.

Most of you are probably aware that there is a widespread public perception that something is seriously wrong with our schools. You hear it at school board meetings; we see it on television; we read it in major newspapers - in Newsweek, Time, and the other major news magazines of our day. We also hear that children in schools today are no longer receiving an education of high quality. These concerns, ladies and gentlemen, are very real. We have studies which have proven them. We have educators concerned, and we have people working very diligently toward resolving these problems.

The decline in Scholastic Aptitude Test scores averages over the past thirteen years is alarming. Verbal scores fell from 466 in 1967, to 424 in 1980. Mathematical scores fell from 492 to 466 in the same period. The proportion of students scoring above 700 out of a possible 800 on the SAT math test declined 15% over an eight year period. During that same interval, students scoring below 300 on the math test increased 38%. An analysis of the slight increase in SAT scores last year shows that most of the increase was due to better scores of black students. White students' scores continue to drop except in some midwestern, rural states, which should give us a clue as to where to look for answers.

Initially this decline could be attributed to a vastly increased percentage of students taking the test, not just the cream of the graduating class. However, the test-taking population has stabilized, and even the valedictorian scores are declining at this same alarming rate.

The increasing numbers of functionally illiterate students graduating from high schools is also alarming. According to a recent Harris survey, 19 million Americans over the age of 16 are functionally illiterate. Forty to 60% of our college students must take remedial English. There has been a 70% increase in remedial math courses in public four year colleges over the last five years. This decline in educational achievement is so pronounced that it has received coverage in major news magazines.

To make vivid this decline, a recent article pointed out examples from the latest nationwide math survey of seven year olds. Only 58% know what percentage 30 is of 60; only 42% could determine the area of a square when the length of only one side was given; and only 39% could correctly divide the number 250 by .5. This decline in academic excellence portrayed by internal measures becomes even more of a concern when this country's commitment to quality education is compared with that of others.

A paper presented recently at the National Academy of Sciences defined the fastest growing minority group in the United States as the scientifically and technically illiterate. In other countries: the Soviet Union, in East Germany, in China and Japan, specialized study with separate teachers begins for children in the sixth grade. There are separate courses in mathematics, biology, chemistry, physics, and geography. Each course extends over a period of four to six years and these courses are required of all students -not just those at the top part of the class and not just those choosing to go on into these areas. They are required of all students.

In this country, by contrast, we find a striking comparison, indeed. Of high school seniors graduating in 1980, only 33% had completed two or more years of math; only 22%, three or more years of science. The contrast is startling.

We have been concerned, and I think properly so, about equality in education and about the necessity of bringing up the disadvantaged and the underachievers. We have come a long way in making education available to more students in greater quantities. But in the process, I wonder if we have not lost a commitment to disciplined learning. Are we challenging our students enough? This question is being asked over and over and I think even some of our students are saying "no." Coupled with the decline in test scores we find academically able teenagers are often permitted to substitute easy, remedial courses, rather than mastering a more rigorous course of education. We now find that too much time is spent on social classes in school: driver training, pep clubs, and many other things peripheral to the central purpose for which the schools were created in the first place. High school students are moving toward an open curriculum where they can choose a large number of electives, moving away from foreign languages and away from math and science. If a high school requires two units of mathematics for graduation, it has been very easy for students to substitute remedial math and consumer arithmetic for a more serious pursuit of advanced mathematics. This country is not appropriately challenging our students. We find this to be true and we find that only one third of the nation's 16,000 school districts require graduates to take more than one year of mathematics or science.

Nowadays there is a great deal of emphasis on basic skills. It has arisen from an understandable concern about the quality of education. However, even in this area, we have a problem when the acquisition of basic skills becomes the curriculum, rather than more properly the foundation upon which students can build their ability to deal with more complex situations.

A blue ribbon panel, which was recently convened to analyze the decline in test scores, also noted that fewer basic courses are now being required of all students in high school. Many more electives are being introduced into the curriculum. In discussing the responsibility for the decline, the panel also gave the following verdict with regard to educators:

> Their responsibility centers in having made more concessions because of changing circumstances and demands - by tolerating excessive absenteeism, by themselves credentialling incompetence, by adopting less demanding textbooks, and by condoning little reading and less writing than has been good for anybody involved.

It is very clear that we can no longer tolerate this decline in the quality of our educational system. The demand for academic excellence, particularly in the areas of science and technology, is ever increasing. Today people in a wide range of endeavors in business, government, and the military must have a greater understanding of technology to succeed. Rural schools in particular must not be left in the dust of a stampede to remedy technological illiteracy. Rural schools, too, have pioneered in the application of technology to instruction and should be involved in any efforts to reform quality in education.

We have many questions to ask ourselves in addressing ways to reverse this general erosion of standards of excellence. Given the very great investment that this country has made in education, our society has a right to expect that all of our students should receive an education of the highest quality.

In addressing these concerns at the federal level, Secretary Bell has appointed an eighteen member National Commission on Excellence in Education. The Commission is scheduled to issue its report to the American public in March of next year. It will address a great many issues of interest to you and other educators located throughout the country. Among these, the Commission will assess the quality of teaching and learning in our nation's schools. It will compare American schools and universities with those of other advanced nations. It will identify exceptionally effective educational programs and search for the sources of their success. It will assess the degree to which major social changes in the last quarter century have affected student achievement, and it will attempt to define problems which must be faced and overcome if we are to successfully pursue the course of excellence in education.

In carrying out its charge, the Commission is committed to issuing practical recommendations that can be used by parents, teachers, and administrators. Too often, the commissions that have been appointed have come out with findings which, when applied to day-to-day classroom situations, are of absolutely no use. This Commission is very sensitive to those problems and is endeavoring to make sure that any recommendations it makes can be implemented in a classroom in a very short period of time. The Commission is committed to involving rural educators. You have a vital stake in the work of this commission and we hope if you are not already involved and have not already been involved with their activities, that you will do so. First, the rural educator must be concerned that any final recommendations about excellence, which will obviously be for schools in general, do not ignore the special conditions that face small and rural isolated schools. Second, rural schools must be heard when these solutions are fashioned because they have much to offer when excellence is defined.

To insure that the rural voice is heard, the Office of Elementary and Secondary Education has sponsored a number of efforts over the past year to address these concerns. Among these are that recommendations from the Commission not be detrimental to the very survival of rural schools. The Office of Elementary and Secondary Education has funded a study to develop special concerns and recommendations of rural and small schools. This study was funded through a contract with the American Association of School Administrators and we have commissioned a report on educational excellence for rural America. That report will compile recommendations developed by rural educators and, after being reviewed and approved by a panel again representative of rural educators and school administrators, will be forwarded to the Commission on Excellence for their consideration prior to their drafting of final recommendations.

invited rural educators to share with one another, and with us at the federal level, the best examples that we could find of excellence in rural education. I suspect that many of you attended. I know that we at the federal level found there were certainly a great many things happening in rural America which were consistent with the solutions being proposed by other panels, by information that was being given to us, and by research studies that had been undertaken in the last few years. Your host here, Dean Jerry Horn, made a presentation at that seminar and I suspect a great many of you did as well.

By highlighting rural excellence, we tried to make sure that rural schools were considered as part of the solution and not part of the problem, as the old Conart Report of the '60s implied. We also included on the program two important members of the Commission on Excellence, Ann Campbell, who is the State Commissioner of Education in Nebraska, and former Governor Albert Quie of Minnesota. They are particularly aware of rural school concerns and we believe they will very ably represent the viewpoint of rural America on that commission.

The current federal administration has also emphasized other policies which we believe will help school superintendents promote excellence in rural schools. First, and it seems I haven't made a speech for a couple of years without talking about this, the Education Consolidation and Improvement Act of 1981, which combined 28 categorical programs into one block grant, now gives many rural school systems federal funds for the first time. All LEAs, regardless of their size, are entitled to a share of the funds. Those funds are to be used to meet locally determined needs and priorities, not those we at the federal level have determined you should be spending your money for. More importantly, rural schools do not have to compete with large urban centers on what are sometimes rather vague or outdated criteria for selection of applicants for these funds.

Secondly, deregulation, which continues to be emphasized in the Department of Education, promises to reduce the burden and barriers to the participation of small and rural schools in federal programs. This will be accomplished through simpler applications, fewer reports, and in some limited instances, exemptions from certain requirements. Deregulation is clearly a part of a larger policy of the Department of Education to ensure equitable treatment of rural schools in policies on grants, technical assistance, and dissemination of information from the federal level.

It is already apparent that any effective efforts to turn our educational system around will have to come from those in control, those most effected, and those to whom our form of government assigns the primary responsibility for education. That is, it will have to come from state and local governments. In a world that is clearly becoming more and more competitive, our educational system will need to concern itself with preparing students to address the very survival of our form of government.

In such a context, will our school system be able to be as concerned with social reform and equal opportunity as it has been? If equality of opportunity means a fair chance to grow as tall as you can intellectually, then we must not ignore the rights of our students who have been endowed with a quick and bright mind. They must have the right to become intellectually unequal. There is nothing fair and right about equal treatment of unequals, whether it be the talented or the disadvantaged. I believe it's time for us to begin looking at maximum competency and not only minimum competency. I believe it's time that we devote as much effort to challenging the outer limits of the abilities and talents of our students as we have devoted to bringing up the bottom. We are all inclined to measure up to the level of expectations that are placed upon us. We are doing both our students and our country as a whole a great disservice by not having the highest expectations for academic performance.

Regardless of the Commission's findings and regardless of what their recommendations will be in March, one thing is very clear, and that is something has to change. Perhaps evolving this change will entail some rethinking of the school's basic role or perhaps holding each individual more responsible for making a personal investment in his or her success.

We already know, for instance, that the more time students spend on school work, the better they do in school. Yet we find that in the most recent survey of high school seniors, more than half of them spend three hours or less per week on homework and over seven percent of them did no homework at all. Perhaps we must ask ourselves if our primary goal is for competence in basic skills of learning. Are we going to be able to continue to charge the schools with the joint responsibility of instruction and social concern?

Sometimes we have moved towards a blind pursuit of equal opportunity with nothing at the end of that pursuit. We must continue to stress quality in education as well as equality of education. We must insist on the attainment of academic excellence, and we must begin to work as hard for the talented as we do for the disadvantaged, the deprived, or the handicapped. All of us, and that includes students, educators, parents, public officials, and citizens must work harder to put educational excellence within the reach of everyone. If we are to remain strong, I believe America can afford no less.

RURAL AND SMALL SCHOOL STUDENTS ARE MOTIVATED BY AEROSPACE EDUCATION

by

Floyd H. Price and Mary Enstrom

Many public school educators, rural and urban, are going through some traumatic experiences. Budget cuts, demands by parents, legislators, textbook censoring, accountability, motivating students, etc.

Vibrations have been transmitted to indicate that among students, dissatisfaction exists. Students are increasingly displeased with the traditional 3 R's or basics and confinement to learning in a classroom environment. Mediocre offerings by the educational system are unchallenging. Some parents are concerned with the relevancy and the quality of the traditional offerings.

Some teachers, some administrators, and some school board members and other personnel are bold enough to come forth and try to induce change in the curriculum. The resistance that they sometimes encounter is amazing. Out of this search for vitality in the school offerings and ways to motivate children, should come Aerospace Education. What is Aerospace Education?

Aerospace Education is that branch of general education concerned with communicating knowledge, skills, and attitudes about aerospace activities and the total impact of air and space vehicles upon society.

This does not mean that a school needs a course in Aerospace Education, an aviation ground school course for pilots' training.

One of the most promising vehicles for motivating students through the basic 3 R's is readily available to all school personnel. They need only to look out into the sky and and there it is! The entire region extending from the earth's surface through the total expanse beyond. Aerospace Education: Airplanes, Sky lab, Space Shuttle, Rockets, Hot Air Balloons, Astronauts, paper air plane, The Columbia, etc.

Too many educators and lay people view Aerospace Education as learning to be a pilot. The career opportunities in Aerospace are vitally rich, but pilot training is a mere "spin off" of Aerospace Education. Dispelling this somewhat archaic misconception, is a task that has only been undertaken by a few educators of this state , those who have experienced the joys of teaching and learning in a really enriched environment inside and outside the regular classroom.

Aerospace Education affords excellent opportunities to integrate, blend in, relate, and combine science, math, English, industrial arts, trade and industrial education and humanities into meaningful cohensiveness.

True, we all need to read -- this is a basic. From this we learn to develop skills and appreciation. But must all of our experiences be second hand? Can we not change our setting once in awhile? Must we always be regimented to the point of memorizing facts, filling in blanks, etc.? Should we not expose our students to a process of developing, in his own way, some process of developing a problem solving technique? Must a student be imprisoned by a locked-in conformity of page-by-page, step-by-step processes through his learning career? Can't personal on-the-job experiences be interesting enough as to encourage a more indepth reading into his newly found interest?

Aerospace is not the sole answer to better motivation and greater student interest, but it does offer some opportunities for exploration and more hope and success for all children, at no additional cost to our basic educational system or the taxpayer.

THE EFFECTS OF CHANGING SCHOOL FINANCE ON ORGANIZATIONAL CHARACTERISTICS OF ACADEMICALLY EFFECTIVE RURAL SCHOOLS

by

Harold Blackburn

There have been some important studies conducted in the last few years on the characteristics of academically effective schools. Studies done by Edmonds, Brookover, Rutter, Armour and others, and certain agency sponsored studies such as the California State Department of Education and Education Testing Services, have contributed to a significant body of literature that describes academically effective schools. The changing patterns of school finance have a direct relationship to academically effective schools, including those schools located in rural and small community settings.

Studies and reports seem to suggest that the following organizational characteristics must be present if schools are to be academically effective: school site management, administrative and instructional leadership, staff stability, curriculum articulation and organization, staff development, parental involvement and support, school wide recognition of academic success, maximized learning time and school district support.[1] Many of these characteristics can be found in small schools. Each characteristic is influenced by the amount of resources made available to schools by the various levels of government and the manner in which these resources are distributed.

Revenue allocation and distribution patterns of federal and state resources are usually based on priorities explicitly stated or inferred in laws and regulations derived from congressional and legislative testimony. At the local level, community customs, sanctions and traditions affect education revenue collection and distribution patterns. Funding decisions are reached after educators, political decisions makers and representatives of various interest groups have made known their points of view. This political process is in keeping with American democratic traditions.

Rural and small community schools serve diverse populations. Individual students often differ within and among districts in terms of race and economic class, as well as in the capacity to learn. Each school is charged with providing appropriate educational opportunities to accommodate these differences. Meeting the individual needs of pupils requires that adequate financial resources be provided and effectively spent. Insufficient revenues and/or inappropriate expenditures tend to diminish equal educational opportunity.

Rural and small community schools are diverse in terms of school district wealth and the costs of education. If academically effective schools are to be achieved, then the inequalities of school district wealth must be remedied by the level of government (state) having the responsibility to do so. The matter of unequal costs of education is related to academically effective schools. The solution to the problem of unequal costs often determines whether a school can provide a quality education. Unequal costs generally require a state designed and managed remedy. The remedy usually provides for excess cost reimbursements. School finance does influence the extent to which excellence in rural and small schools is achieved.

All of the characteristics of academically effective schools cited above are applicable to rural and small schools. School site management is not considered here because in most rural communities district superintendents and building staffs have generally worked out the appropriate degree of needed building autonomy based on the reality of the size of each rural community. The remaining eight characteristics are considered here.

1. Administrative and Instructional Leadership - Federal funds for school district, executive in-service education have never been substantial and at present are virtually nonexistent. State funds for this purpose have traditionally been minimal. Local funds are limited. What are the alternatives in planning the improvement of skills of school district executives? Is it possible to effectively utilize technology to solve this problem?
2. Staff Stability - Declining enrollments and the effects of the economic recession tend to encourage teachers to continue teaching at their current locations. The result is an older and more experienced staff that present certain instructional strengths. These strengths include the capacity to assist in the development of instructional goals and thereby the staff claims "ownership" of them. Such "ownership" encourages their commitment toward achieving these goals. How can rural and small schools retain effective teachers and benefit from their skills in instructional goal development and achievement?
3. Curriculum Articulation and Organization - The recent implementation of the decentralization concept in education by the federal government as exemplified by the "block grant" arrangements is placing greater demands on the leadership and technical assistance capabilities of state and local education agencies. States are being asked to provide more leadership than ever before in the development of instructional and curricular responses to a broad range of local educational needs. Even though instructional development and improvement remain very much a local matter, they are affected by state boards of education initiatives and regulations. Local schools in rural areas ultimately are responsible for designing curriculum to meet individual and community needs while meeting state requirements. What fiscal resources are available to assist small schools in curriculum development?
4. Staff Development - A teaching staff needs the benefit of relevant and purposeful in-service experiences. If technology increases the rate of learning as well as the number of approaches to learning as rapidly as some prognosticators suggest, staff development is an immediate imperative. What federal, state and local resources are available for staff development purposes?
5. Parental Involvement and Support - Modifications in recent federal regulations suggest that the requirements for parental involvement in some federally supported education programs are being diluted. Yet, research findings and testimony of education leaders seem to support

1 "Effective Schools--A Review." Stewart Purkey and Marshall Smith. Paper prepared for National Institute of Education Conference, February, 1982.

appropriate parental involvement in school matters. Many rural and small schools have a tradition for extensively involving parents and members of local communities in school activities. How can limited financial resources be utilized to stimulate and maintain parental involvement in small school settings?

6. School-wide Recognition of Academic Success - Individuals, as well as institutions, are heartened by public recognition of their successes. Reports of individual and institutional successes in education matters that benefit the state and the community usually bring expressions of support from state and local legislative and administrative leadership. These expressions of support can and often do bring increased revenues or cause shifts in expenditures that result in an improved financial posture for local schools. What are some ways that school-wide recognition of academic success can be achieved in small schools?
7. Maximized Learning Time - School finance has a bearing on student learning time. State school aid formulas often include requirements that districts must meet relative to length and number of school days. Well prepared and/or experienced teachers can be instrumental in assisting students in focusing their time on specific learning tasks that result in improved skills and scores. What are the prospects for increased revenues which can be used to employ and retain superior teachers who understand the implications of "time on task" and the value to each child of each moment of the school day?
8. School District Support - Essential to most educational enterprises are competent leaders and a management structure that actively and wisely supports the learning process. School district support of student and staff is generally achieved by reaching mutual agreement on the goals to be achieved and a consensus as to the ways of achieving these goals. What are some of the ways that a central office can participate in the development of an academically effective school?

Academically effective schools are the result of the proper combination and utilization of money, skilled staff and "knowhow". All three elements of the triad are essential. Money alone is not enough and limited financial resources will place an even greater responsibility on staff skills and competence if academically effective small schools are to be achieved and maintained.

Federal aid to elementary and secondary education will probably not increase in the same proportion to total revenues that it has in recent years. Utilizing certain funding mechanisms such as "block grants" and choosing not to fund selective programs will have the effect of redirecting general funding levels to meet federal priorities. It is not likely that there will be any increased funding from the federal level directed specifically to rural schools.

Some states may try to offset the lessening of federal financial support for elementary and secondary education by increasing the amounts of state categorical and general aid to schools. Such increases are likely to be consumed by (1) newly identified student needs, (2) by responding to increased emphasis on established needs such as the education of exceptional children, and (3) by the uncertainties of the economy.

There is a limit on the amount of local tax resources that can be tapped by local school districts. It is impossible at the state or national level to determine just what that limiting point is in each district. The principal determinants of a tax limit are the taxpayers' perceptions as to what constitutes an intolerable limit of federal, state and local lax levies as a whole. Another determinant is the local community's perception of how effectively public funds for education are being invested.

Funds for the improvement of the skills of administrators and teachers are not likely to increase substantially from any level of government. As a result, to meet this need it will be necessary for:

1. The redirection of existing local, state and federal funds where possible.
2. The sharing of local and state resources (people with special skills and talents and materials) in various kinds of exchange programs among districts. There is a reservoir of talent of "teachers for teaching teachers" available now.
3. The preparation of video tapes, films and cassettes and descriptive literature should be expanded by teacher education institutions and regional laboratories for small schools searching for ways to improve instruction.
4. The broadening of the definition of in-service teacher education to include, where appropriate, utilizing and ad hoc teachers with special competencies in new technologies that are even now influencing both the content and process of education.

Small schools must do an even better job in identifying individual and institutional academic successes than they have in the past because all levels of government that provide funds for their support will continue to do so or expand their investment only if there seems to be a sound justification in terms of quality as well as quantity of product resulting from that investment.

The current situation, however, requires closer attention to public relations by small schools. The following initiatives should be considered by rural school leadership:

1. Encouraging and supporting federal initiatives in rural and small school research.
2. Developing an awareness on the part of legislators that small school needs are not synonymous with urban education needs and that resources and allocations should be tailored with that notion in mind. Such an awareness can help form the basis for developing school finance policies that are more sensitive to small school needs.
3. Improving and expanding local efforts to better explain the role and function of the local school to the community. Such an explanation is a form of a "stockholder's report" that compares expenditures to the school's academic achievements.

The characteristics of academically effective schools present a special challenge to rural school leadership. Too often, quality education is associated with size of staff, budget, curricular offerings, etc. Quality education is associated less frequently with individual personal fulfillment and achievement of individual student potential. These are traditional characteristics of many academically affective small schools that should be extolled far more than they are now. They are worthy imprints in rural and small schools in the history of American education.

HIGH SCHOOL ATTENDANCE POLICIES IN THE STATE OF KANSAS

by

Alfred P. Wilson and Jerry D. Singer

Introduction

Absenteeism has been a mounting problem that has developed into a burden for industry and our schools. Workers are increasingly viewing absenteeism as a right, and this attitude is filtering down to school children. Sick leave has lost its initial purpose of being a benefit that most workers can set aside for insurance against long-term illness, and is now often used to escape the normal routine of work.

This attitude has had devastating effects in the business sector. Cruikshank states that "for overall economy, the cost of no-shows is reckoned in tens of millions of lost man-hours every week in idle machinery and unused plant facilities, in materials spoilage, and in delayed shipments to customers, among other things." These expenses resulting from administrative lost time, decreased productivity and sick leave costs have been passed on to the consumer, thus causing society to absorb the loss created by the absent employee.

Now absenteeism from schools is generating huge social costs, particularly as it's related to juvenile crime. Elliot Lee, Gil Sewall, and Diane Sherman reported that "truants cost Overland, California, millions of dollars in vandalism and led to shocking rates of juvenile crime." There are also the long range effects of having large numbers of individuals entering the work force without adequate formal education.

These concerns have led legislators to enact compulsory education laws in all of the states except Mississippi. The legislation passed by the state of Kansas required compulsory attendance of students between ages seven (7) and sixteen (16). It has normally been left up to the individual school district to develop their own attendance policies for enforcement of the statute for both the 7-16 year old age group and for those students beyond that age.

School districts throughout the state of Kansas have developed their attendance policies to be enforced by the building level administrators. Numerous administrative hours are spent enforcing the attendance policies developed by the individual school districts and dealing with the many problems that are associated with poor student attendance.

Purpose and Objectives

The purpose of this study was to determine the characteristics of attendance policies used in high schools in the state of Kansas. Once this was determined, the various groups affected by the policies were surveyed to determine their perceptions of these characteristics.

Population and Sample Size

The population of this study included student body presidents, building representatives of the teachers organizations, principals, and school board presidents. Twenty high schools from each of the high school size classifications 6A, 5A, 4A, and one group made up of 3A, 2A, and 1A, were randomly selected by strata. The questionnaire was distributed to the student body president, building representative of the teacher organization, principal and school board president of each of the 80 randomly selected high schools.

Definition of Terms

The High School is a U.S. secondary school for all of or portions of grades 9-12, covering the 15-18 year old age group.

The Attendance Policy is the local school district policy laying down conditions of attendance at school.

6A High Schools are those 32 high schools in the state of Kansas with the largest enrollments in grades 10, 11, and 12 as determined by the September 15 Kansas State Department of Education Official Enrollment Count.

5A High Schools are those 32 high schools in the state of Kansas with the 33rd through 64th largest enrollments in grades 10, 11, and 12 as determined by the September 15 Kansas State Department of Education Official Enrollment Count.

4A High Schools are those 64 high schools in the state of Kansas with the 65th through 128th largest enrollments in grades 10, 11, and 12 as determined by the September 15 Kansas State Department of Education Official Enrollment Count.

3A High Schools are those 64 high schools in the state of Kansas with the 129th through 192nd largest enrollments in grades 10, 11, and 12 as determined by the September 15 Kansas State Department of Education Official Enrollment Count.

2A High Schools are those 64 high schools in the state of Kansas with the 193rd through 256th largest enrollments in grades 10, 11, and 12 as determined by the September 15 Kansas State Department of Education Official Enrollment Count.

1A High Schools are those high schools in the state of Kansas with the 257th through all remaining enrollments in grades 10, 11, and 12 as determined by the September 15 Kansas State Department of Education Official Enrollment Count.

Analysis of the Data

Attendance Characteristics

Sixty-two (62) of 80 randomly sampled schools returned attendance policies to the initiator of the study. A panel of three experts found 28 characteristics that were used in the attendance policies. Listed below are the characteristics found.

1. Parents are allowed to excuse any student absence.
2. The school determines which student absences are classified as excused.
3. Parents must contact the school by telephone to excuse student absences.
4. Parents can contact the school by either telephone or written message to excuse student absences.
5. The school contacts the parents of an absent student if they fail to contact the school.
6. Absences not excused within a specified number of days are classified as unexcused.
7. Students are required to attend a specific number of hours to receive credit for a course.
8. Suspensions from school are used to penalize students who are truant.
9. Students are not allowed to make up work missed due to unexcused absences.
10. Students are required to make up time missed due to unexcused absences.
11. Poor student attendance leads to poor academic achievement.
12. Poor student attendance leads to a low level of responsibility.
13. Attendance is the responsibility of the student and his/her parents.
14. Students lose credit for courses and can even be removed from the educational program after a set number of unexcused absences.
15. Schools notify the home after the student has missed a specific number of days.
16. Poor student attendance leads to poor work attendance in later years.
17. Students are required to provide a doctor's note after a specific number of consecutive absences.
18. It is the student's responsibility to obtain work missed due to excused absences.
19. Students with poor attendance patterns are required to attend an attendance workshop to remain in school.
20. Students are excused for personal illness.
21. Students are excused for family emergencies such as serious illness or death.
22. Students are excused for medical and legal appointments.
23. Students are excused when parents need them at home.
24. Students are excused when they need to work at an outside job.
25. Students are excused for personal errands.
26. Students are excused to take prearranged vacations with parents.
27. Incentive programs are used to encourage good student attendance.
28. A specific number of tardies count as an unexcused absence.

Response to Questionnaire

A total of 72 questionnaires were returned from high school principals; 71 usable questionnaires were returned by building representatives of the teacher organizations; 71 usable questionnaires were returned by student body presidents; and 62 usable questionnaires were returned by school board presidents.

TABLE 1

SUMMARY OF RETURNS BY AREA OF RESPONSIBILITY

Responsibility	No. Surveyed	No. Returned	% Returned
Teacher Representative	80	71	88.75
Student Body President	80	71	88.75
Principal	80	72	90.00
School Board President	80	62	77.50

Tables 2, 3, 4, and 5 show a breakdown of the school classifications by size surveyed.

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TABLE 2

SUMMARY OF SCHOOL CLASSIFICATION BY SIZE
STUDENT BODY PRESIDENT RESPONSES

Classification	Number	Percent
6A	17	85
5A	18	90
4A	20	100
3A, 2A, 1A	16	80

6A is the 32 largest High School enrollments, grades 10, 11, and 12.
5A is the 33rd - 64th largest High School enrollments, grades 10, 11, and 12.
4A is the 65th - 128th largest High School enrollments, grades 10, 11, and 12.
3A, 2A, 1A are the 129th and below largest High School enrollments remaining.

TABLE 3

SUMMARY OF SCHOOL CLASSIFICATION BY SIZE
BUILDING REPRESENTATIVE OF THE TEACHER ORGANIZATION

Classification	Number	Percent
6A	17	85
5A	18	90
4A	20	100
3A, 2A, 1A	16	80

6A is the 32 largest High School enrollments, grades 10, 11, and 12.
5A is the 33rd - 64th largest High School enrollments, grades 10, 11, and 12.
4A is the 65th - 128th largest High School enrollments, grades 10, 11, and 12.
3A, 2A, 1A are the 129th and below largest High School enrollments remaining.

TABLE 4

SUMMARY OF SCHOOL CLASSIFICATION BY SIZE
PRINCIPAL

Classification	Number	Percent
6A	18	90
5A	18	90
4A	20	100
3A, 2A, 1A	16	80

6A is the 32 largest High School enrollments, grades 10, 11, and 12.
5A is the 33rd - 64th largest High School enrollments, grades 10, 11, and 12.
4A is the 65th - 128th largest High School enrollments, grades 10, 11, and 12.
3A, 2A, 1A are the 129th and below largest High School enrollments remaining.

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TABLE 5

SUMMARY OF SCHOOL CLASSIFICATION BY SIZE
SCHOOL BOARD PRESIDENT

Classification	Number	Percent
6A	15	75
5A	16	80
4A	17	85
3A, 2A, 1A	14	70

6A is the 32 largest High School enrollments, grades 10, 11, and 12.
5A is the 33rd - 64th largest High School enrollments, grades 10, 11, and 12.
4A is the 65th - 128th largest High School enrollments, grades 10, 11, and 12.
3A, 2A, 1A are the 129th and below largest High School enrollments remaining.

Student Body Presidents', Building Representatives' of the Teacher Organization, Principals', and School Board Presidents' Perceptions

Using the one way analysis of variance procedure, two hypotheses were tested at the .05 level of significance. The hypotheses and the results of the analysis are shown below.

Hypothesis Number 1

There is no significant difference between how the student body presidents, building representatives of the teacher organizations, school board presidents, and principals perceived the various characteristics found in attendance policies of the state of Kansas.

The F ratios found using the analysis of variance technique are listed in Table 6. Eleven of 28 characteristics showed a significant F ratio.

TABLE 6

ANALYSIS OF VARIANCE F RATIOS FOR POSITION
OF THE RESPONDENTS

Characteristic	F
1	30.15 *
2	19.00 *
3	2.08
4	2.74
5	15.54 *
6	5.29
7	4.17
8	0.63
9	11.73 *
10	3.47
11	10.35 *
12	14.34 *
13	3.63
14	5.54
15	7.04
16	6.00
17	6.80
18	3.91
19	0.95
20	4.12
21	0.80
22	11.77 *
23	21.02 *
24	24.38 *
25	22.14 *
26	11.19 *
27	4.86
28	4.35

* Significantly different at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

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Table 7 shows the mean scores of perceptions of student body presidents, building representatives of the teacher organizations, principals, and school board presidents towards the 28 characteristics of attendance policies in the State of Kansas.

TABLE 7

MEAN SCORES FOR POSITION OF THE RESPONDENT

Characteristic	Student Body President	Teacher Organization Representative	Principal	School Board President
1 *	4.25	2.03	1.78	2.47
2 *	4.31	5.97	6.04	5.90
3	4.82	4.99	5.32	4.52
4	5.59	4.72	4.94	5.26
5 *	4.13	5.30	5.24	6.21
6	5.39	6.24	6.25	6.05
7	5.00	6.03	5.44	5.61
8	3.15	3.46	3.25	3.56
9 *	3.94	5.21	4.99	3.31
10	4.24	4.97	4.83	5.23
11 *	5.06	6.20	6.07	5.73
12 *	4.92	6.21	6.01	6.08
13	6.08	6.55	6.11	6.53
14	4.66	5.68	5.14	4.55
15	5.31	5.87	5.63	6.37
16	4.73	5.45	5.71	5.31
17	4.08	5.11	5.19	4.40
18	5.22	6.70	6.61	6.35
19	3.72	3.89	4.04	4.11
20	6.00	5.32	5.32	5.94
21	6.73	6.54	6.57	6.63
22 *	6.56	5.17	5.72	5.97
23 *	4.94	2.83	3.08	3.52
24 *	3.72	1.89	1.85	2.11
25 *	3.94	2.17	2.26	2.19
26 *	5.49	3.89	4.99	4.61
27	5.41	4.61	5.39	5.52
28	4.34	5.35	4.56	4.97

* Significant difference at .05 level

Tables 8-18 give the F ratio between student body presidents, building representatives of the teacher organizations, principals, and school board presidents according to the Scheffe Test.

TABLE 8

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 1

Pairwise Comparison	F Ratio
Principal/Student	24.76 *
Principal/Teacher	0.25
Principal/Board President	1.79
Student/Teacher	19.87 *
Student/Board President	10.86 *
Teacher/Board President	0.72

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.53

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TABLE 9

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 2

Pairwise Comparison	F Ratio
Principal/Student	13.86 *
Principal/Teacher	0.02
Principal/Board President	0.08
Student/Teacher	12.67 *
Student/Board President	10.86 *
Teacher/Board President	0.02

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

TABLE 10

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 5

Pairwise Comparison	F Ratio
Principal/Student	4.69
Principal/Teacher	0.01
Principal/Board President	3.37
Student/Teacher	5.17
Student/Board President	15.32 *
Teacher/Board President	2.95

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

TABLE 11

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 9

Pairwise Comparison	F Ratio
Principal/Student	2.84
Principal/Teacher	0.13
Principal/Board President	6.87
Student/Teacher	4.17
Student/Board President	0.98
Teacher/Board President	8.78 *

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

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TABLE 12

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 11

Pairwise Comparison	F Ratio
Principal/Student	6.82
Principal/Teacher	0.11
Principal/Board President	0.73
Student/Teacher	8.58 *
Student/Board President	2.76
Teacher/Board President	1.37

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

TABLE 13

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 12

Pairwise Comparison	F Ratio
Principal/Student	8.17
Principal/Teacher	0.26
Principal/Board President	0.28
Student/Teacher	11.28 *
Student/Board President	8.51
Teacher/Board President	0.11

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

TABLE 14

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 22

Pairwise Comparison	F Ratio
Principal/Student	4.19
Principal/Teacher	1.81
Principal/Board President	0.33
Student/Teacher	11.42 *
Student/Board President	1.94
Teacher/Board President	3.49

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

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TABLE 15

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 23

Pairwise Comparison	F Ratio
Principal/Student	13.70 *
Principal/Teacher	0.25
Principal/Board President	0.69
Student/Teacher	18.00 *
Student/Board President	7.47
Teacher/Board President	1.72

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

TABLE 16

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 24

Pairwise Comparison	F Ratio
Principal/Student	18.04 *
Principal/Teacher	0.01
Principal/Board President	0.34
Student/Teacher	17.16 *
Student/Board President	12.30 *
Teacher/Board President	0.24

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

TABLE 17

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 25

Pairwise Comparison	F Ratio
Principal/Student	13.20 *
Principal/Teacher	0.04
Principal/Board President	0.02
Student/Teacher	14.63 *
Student/Board President	13.26 *
Teacher/Board President	0.00

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

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TABLE 18

SCHEFFE TEST F RATIOS FOR PAIRWISE COMPARISONS
OF POSITIONS OF THE RESPONDENTS
CHARACTERISTIC 26

Pairwise Comparison	F Ratio
Principal/Student	1.06
Principal/Teacher	4.97
Principal/Board President	0.53
Student/Teacher	10.54 *
Student/Board President	2.95
Teacher/Board President	2.01

* Significant difference at the .05 level
df= 3,272
Region of Rejection: F greater than or equal to 8.55

Table 19 gives a summary of where significant differences actually occurred between student body presidents, building representatives of the teacher organizations, principals, and school board presidents according to the Scheffe Test.

TABLE 19

SIGNIFICANT F RATIOS USING SCHEFFE TEST FOR PAIRWISE
COMPARISON OF POSITIONS OF THE RESPONDENTS

Characteristic	P/S	P/T	P/BP	S/T	S/BP	T/BP
1	*			*	*	
2	*			*	*	
5					*	
9						*
11				*		
12				*		
22				*		
23	*			*		
24	*			*	*	
25	*			*	*	
26				*		

* Indicates a significant difference at the .05 level

When the 28 characteristics are ranked by mean scores, as to their importance (least to greatest) the four comparison groups each rank the areas differently. Table 20 shows the rank order of importance (least to greatest) of each characteristic by the four positions of respondents.

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TABLE 20

RANK ORDER FOR IMPORTANCE OF CHARACTERISTICS AS DETERMINED BY MEAN SCORES

Characteristic	Student Body President	Teacher Organization Representative	Principal	School Board President
1	9	2	1	3
2	10	21	24	19
3	14	11	15.5	9
4	21	9	9	14
5	7	15	14	24
6	20	25	27	22
7	17	22	18	17
8	1	5	5	6
9	4.5	14	10.5	4
10	8	10	8	13
11	18	23	25	18
12	15	24	23	23
13	23	27	26	27
14	12	19	12	10
15	19	20	20	26
16	13	18	21	15
17	6	12	13	8
18	24	20	28	25
19	2.5	6.5	6	7
20	23	16	15.5	20
21	26	26	19	28
22	25	13	22	21
23	16	4	4	5
24	2.5	1	2	1
25	4.5	3	3	2
26	22	6.5	10.5	11
27	21	8	17	16
28	11	17	7	12

The data provided on Tables 6-20 gives considerable insight into how persons affected by the characteristics found in attendance policies in the State of Kansas perceive them. There was consensus found among the four groups on 17 of the 28 characteristics in question.

Each of the four groups that were questioned felt that it was the responsibility of the parents to contact the school officials when their son or daughter was absent from school. According to the responses, parents should be able to fulfill this responsibility either by written notes or by personal telephone contacts. It was interesting to note that the principals and building representatives of the teacher organizations were more strongly in favor of the contact being made by a telephone conference rather than a written note.

The data in response to characteristic 6 shows that each of the affected parties surveyed felt strongly that absences not excused within a specified number of days should be classified as unexcused. The principal and teacher groups felt more strongly in favor of this than did the student body president and school board president groups.

The response to characteristic 7 showed that all groups felt a specific number of hours should be attended in order for a student to receive credit for a course. The student groups assigned the least amount of importance to this concept, but their reaction was still positive.

None of the four affected groups surveyed felt that suspensions from school should be a tool used to penalize students who are truant. It was of interest to note that even though the concept was not accepted, school board presidents were the least resistant group.

The penalty that was more acceptable to each of the groups was that students should be required to make up time missed due to unexcused absences. The data returned on this characteristic again showed that school board presidents felt most strongly in favor of it. The student body president group responded positively towards this characteristic, but they were less receptive to it than any other group surveyed.

All of the groups surveyed felt very strongly that attendance is the responsibility of the student and his/her parents. The teacher and school board president groups gave almost identical responses to this idea. In a similar fashion, the student and principal groups had very similar reactions. Even though the responses were not significantly different, the teacher and school board president groups had stronger feelings toward this idea than did the student and principal groups.

Each of the groups surveyed were in agreement with the idea that students could lose credit for courses and even be removed from the educational program after a set number if unexcused absences. This positive reaction is consistent with the response to the idea that students must attend a set number of hours to receive credit for a course, but is inconsistent with the negative reaction to suspending students for truancy. The teacher group which is in closest contact with the students in dealing with this problem had the strongest positive reaction to this form of penalty. Although school board presidents were agreeable to it, they displayed the least amount of acceptance.

When a student has missed a specific number of days, each group felt that the school should notify his/her parents. There was strong positive reaction to this characteristic shown by all groups. The school board president group was the most positive in their reaction while the student group reacted the least favorably towards the idea.

The idea that poor student attendance leads to poor work attendance in later years was agreed upon positively by all groups. The principal group, which commonly uses this as a reason for students

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to improve their attendance pattern, reacted most positively towards this concept. The student group had the least positive reaction to this belief.

All groups reacted somewhat positively to the characteristic that students be required to provide a doctor's note after a specific number of consecutive absences. The principal and teacher groups felt that it was a good idea while the school board president and student groups reaction was just a little over the point of it not mattering to them. The principal group, which usually spends considerable time working on the attendance problem, had the strongest positive reaction towards this characteristic.

A very strong positive response was received on the characteristic that students must be responsible to obtain work missed due to excused absences. The teacher group, which must spend considerable time assisting students in their effort to make up missed work, felt most strongly towards this. While teachers had the strongest positive reaction, all groups felt that it was of extreme importance.

The idea that students with poor attendance patterns should be required to attend an attendance workshop to remain in school was not really accepted or rejected by any group. This characteristic was found to be used in only one of the 62 attendance policies reviewed. It appears that the four groups have had so little contact with such a program that they could not react strongly one way or another to it.

Personal illness was accepted as a valid excuse for student absences by all four of the groups surveyed. It is of interest to note that the principal and teacher groups mean score was exactly the same. This score showed a positive reaction, but not as high as that of students and school board presidents.

One of the strongest positive reactions about any of the characteristics came concerning the idea that students should be excused for family emergencies such as serious illness or death. This reaction was even stronger than that for the idea that students be excused for personal illness. It is of significant interest to note that all groups rated what is usually an emotional problem as more important than what is usually a physical problem.

Incentive programs used to encourage good student attendance were positively supported by all four groups surveyed. While only two of the 62 attendance policies reviewed made use of incentive programs, all groups surveyed seemed to think that this would be a positive means to improve student attendance patterns. The strongest proponent of such a program was the school board president group, with the student and teacher groups following very close behind.

The idea that a specific number of tardies counted as an unexcused absence was accepted positively by all four groups surveyed. Even though the response was positive, it was not very strong with any of the groups. The teacher and school board president groups had the strongest reaction. The student and principal groups reacted just a little higher than it not really mattering one way or another.

On 11 of the 28 characteristics, significant differences were found to exist between two or more of the groups surveyed.

The first significant difference in reaction of the groups surveyed toward a characteristic was on whether parents should be allowed to excuse any student absence. The student group had a slight positive reaction to this idea, while each of the other three groups reacted very strongly against it. The principal and teacher groups reacted most strongly against the idea, while the school board president group was a little less resistant. This concept did not fare well with any of the groups primarily responsible for developing attendance policies.

The characteristic that the school determines which student absences are classified as excused was also met with significant differences in perceptions. Again the reaction of the teacher, school board president and principal groups was very positive towards this idea. The reaction of the student group was slightly above the point of not really caring, but significantly different from the other three groups. The student group mean score of this characteristic was similar to the mean score on parents being able to excuse any absence. In both cases they were slightly positive about the idea, but they seemed to feel there was a better solution to the problem of distinguishing excused absences.

When surveyed about the responsibility of the school in contacting the parent of an absent student if they fail to contact the school, the student body president group and the school board president group differed significantly. The reaction of all four of the groups was positive concerning this concept. The student body president group was only slightly in favor of this being done, while the school board president group reacted strongly toward it. The teacher and principal groups were strongly in favor of the idea, but they did not differ significantly from the other two groups.

The only time that any of the adult groups differed significantly was over the issue of whether students should be allowed to make up work missed due to unexcused absences. Teachers reacted strongly to the idea that make up work should not be given to students for unexcused absences, while school board presidents seemed to feel that the missed work should be given to the student. The principal group reacted similarly to the teacher group, but their mean score was not significantly different from the school board presidents. The student group reaction was slightly in favor of the missed work being given for unexcused absences, but it did not differ significantly from any other group. It is interesting to note that the school board president reaction to this form of punishment for unexcused absences is somewhat inconsistent with their other hard line feelings towards dealing with truancy problems.

The student and teacher groups differed significantly over the feeling that poor student attendance leads to poor academic achievement. The teacher group responded with a very strong positive reaction to this statement. The student group agreed that the statement was true, but their reaction was not nearly as positive. The school board president and principal groups each felt strongly positive towards this statement, but they did not differ significantly from the other two groups.

An additional area where a significant difference was found between the student and teacher groups was over the statement that poor student attendance leads to a low level of responsibility. Again the teacher response to the statement was very much in agreement with it. The student group responded positively towards the statement, but not nearly as strong as did the teachers. In a pattern similar to that found in the last characteristic, the school board president and principal

groups reacted strongly in agreement with the statement. The reaction of these two groups failed to differ significantly from either that of the student or teacher groups.

For a third time the student and teacher groups differed significantly in their perceptions on if students should be excused for medical and legal appointments. The reaction of the student group was strongly in favor of this concept. Teachers responded positively towards the issue, but not with the intensity of the students. The principal and school board president groups also felt strongly that students should be excused for these appointments. Their reaction failed to differ significantly from the teacher and student groups.

On the issue of whether students should be excused when their parents needed them at home, the teacher and principal groups differed significantly from the student group. Principals and teachers had very negative feelings towards excusing students when needed at home. The students felt that, should the need arise, they should be excused to help their parents. The school board president group was opposed to the idea, but their mean score did not differ significantly from any of the other three groups.

Significant differences were found to exist between the perceptions of all of the adult groups when compared to the student group about the concept that students should be excused to work at an outside job. Teacher, school board president, and principal groups were all vigorously opposed to students being excused for this. Student group reaction was slightly opposed to the issue, but far from the opposition displayed by the other three groups.

The same type of reaction was found about the issue concerning students being excused to run personal errands. The student group reacted with a slightly negative response towards this happening. The groups consisting of teachers, school board presidents, and principals were all highly opposed to these absences being excused. It was interesting to note that the negative response to students being excused to run personal errands was not as strong as that towards students being excused to work at an outside job.

The final characteristic where a significant difference was found to exist was on if students should be excused to take prearranged vacations with parents. The teacher group was slightly opposed to this idea while the student group felt that these absences should definitely be excused. The principal and school board president groups were very much in favor of excusing students to take prearranged vacations with parents, but their response did not significantly differ from that of the teachers.

Hypothesis Number 2

There is no significant difference between how the various characteristics found in the attendance policies of high schools in the state of Kansas are perceived within individual groups as broken down by school classification (6A, 5A, 4A, and group made up of 3A, 2A, and 1A).

The F ratios found using the analysis of variance technique are listed in Tables 21-24. At no time was there a significant difference in perceptions of the 28 characteristics when comparing the individual groups by school size.

TABLE 21

ANALYSIS OF VARIANCE F RATIOS FOR SCHOOL SIZE
STUDENT BODY PRESIDENT RESPONDENTS

Characteristic	F Ratio
1	1.70
2	0.97
3	0.31
4	1.24
5	2.89
6	0.19
7	0.91
8	0.90
9	0.92
10	2.12
11	1.96
12	0.85
13	0.69
14	1.02
15	0.71
16	0.25
17	1.66
18	1.00
19	0.98
20	0.38
21	1.37
22	0.82
23	0.59
24	0.80
25	0.35
26	2.25
27	0.75
28	0.10

df= 3,67 Region of Rejection: F greater or equal to 8.57

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TABLE 22

ANALYSIS OF VARIANCE F RATIOS FOR SCHOOL SIZE OF BUILDING REPRESENTATIVES OF THE TEACHER ORGANIZATION

Characteristic	F Ratio
1	0.29
2	1.11
3	1.30
4	0.77
5	0.95
6	1.14
7	1.79
8	0.20
9	0.58
10	0.02
11	2.10
12	0.96
13	1.12
14	0.77
15	0.08
16	0.59
17	0.80
18	0.47
19	0.36
20	0.43
21	0.47
22	0.65
23	0.92
24	1.51
25	0.73
26	1.90
27	2.97
28	1.57

df= 3,67
Region of Rejection: F greater or equal to 8.57

TABLE 23

ANALYSIS OF VARIANCE F RATIOS FOR SCHOOL SIZE PRINCIPAL

Characteristic	F Ratio
1	0.56
2	0.23
3	1.73
4	0.59
5	2.73
6	0.53
7	0.51
8	2.53
9	1.49
10	0.51
11	0.18
12	0.34
13	1.07
14	1.45
15	1.88
16	0.63
17	0.75
18	0.22
19	1.48
20	1.06
21	0.54
22	0.37
23	0.23
24	0.55
25	1.23
26	0.82
27	1.61
28	1.47

df= 3,67
Region of Rejection: F greater or equal to 8.57

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TABLE 24

ANALYSIS OF VARIANCE F RATIOS FOR SCHOOL SIZE
SCHOOL BOARD PRESIDENTS

Characteristic	F Ratio
1	0.99
2	0.68
3	3.48
4	1.18
5	0.38
6	3.66
7	0.39
8	0.43
9	0.92
10	0.34
11	0.54
12	0.70
13	2.45
14	0.95
15	0.99
16	3.53
17	0.27
18	6.34
19	1.01
20	0.34
21	0.31
22	0.42
23	1.32
24	1.04
25	2.31
26	2.21
27	0.48
28	1.54

df= 3,58
Region of Rejection: F greater or equal to 8.57

Tables 25-28 show the mean scores of perceptions within the individual groups as broken down by school classification (6A, 5A, 4A, and the group consisting of 3A, 2A, and 1A) towards the 28 characteristics found in attendance policies in the state of Kansas.

TABLE 25

MEAN SCORES FOR THE SCHOOL CLASSIFICATIONS
STUDENT BODY PRESIDENTS

Characteristic	6A	5A	4A	3A, 2A, 1A
1	3.82	4.50	4.90	3.63
2	3.88	4.28	4.15	5.00
3	4.65	5.00	5.05	4.50
4	5.41	5.06	5.85	6.06
5	3.29	4.39	5.00	3.63
6	5.53	5.28	5.55	5.19
7	4.35	4.94	5.30	5.38
8	3.06	2.61	3.45	3.50
9	4.59	3.61	3.55	4.13
10	3.41	4.33	4.25	5.00
11	5.18	4.89	4.50	5.81
12	5.18	4.78	4.50	5.31
13	6.29	6.28	5.95	5.81
14	4.88	4.28	4.35	5.25
15	5.29	5.72	5.10	5.13
16	4.82	4.89	4.45	4.81
17	3.41	4.00	4.65	4.19
18	3.65	6.17	6.50	5.81
19	3.53	3.56	3.90	3.88
20	5.94	6.28	5.85	5.94
21	6.76	6.89	6.85	6.38
22	6.47	6.33	6.65	6.81
23	4.59	5.22	5.20	4.69
24	3.29	3.56	4.20	3.75
25	3.59	4.11	4.20	4.06
26	4.65	5.94	5.65	5.44
27	5.41	5.22	5.80	5.13
28	4.24	4.17	4.45	4.50

6A: n=17, 5A: n=18, 4A: n=20, 3A, 2A, 1A: n=16

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TABLE 26

MEAN SCORES FOR THE SCHOOL CLASSIFICATIONS
BUILDING REPRESENTATIVES OF TEACHER ORGANIZATION

Characteristic	6A	5A	4A	3A, 2A, 1A
1	2.06	2.17	1.80	2.13
2	6.18	6.11	5.05	6.19
3	5.18	5.39	5.10	4.19
4	4.53	4.28	4.85	5.25
5	5.06	5.83	4.95	5.38
6	6.41	6.61	5.95	6.00
7	6.29	6.39	6.00	5.38
8	3.35	3.27	3.75	3.44
9	5.35	5.50	5.30	4.63
10	5.06	4.94	4.95	4.94
11	6.41	6.22	6.40	5.69
12	6.29	6.28	6.40	5.81
13	6.71	6.72	6.25	6.56
14	5.82	5.39	5.50	6.06
15	5.76	5.94	5.95	5.81
16	5.59	5.11	5.65	5.44
17	4.71	5.22	5.35	4.88
18	6.82	6.83	6.60	6.56
19	3.82	3.72	4.20	3.75
20	4.94	5.44	5.55	5.31
21	6.41	6.44	6.60	6.69
22	4.82	5.00	5.60	5.19
23	3.18	3.06	2.35	2.81
24	1.47	1.56	2.40	2.06
25	1.94	1.94	2.15	2.69
26	3.35	3.39	4.55	4.19
27	5.41	4.67	4.55	3.75
28	5.29	4.67	5.85	5.56

6A: n=17, 5A: n=18, 4A: n=20, 3A, 2A, 1A: n=16

TABLE 27

MEAN SCORES FOR THE SCHOOL CLASSIFICATIONS
PRINCIPALS

Characteristic	6A	5A	4A	3A, 2A, 1A
1	1.56	1.50	2.00	2.06
2	6.00	5.83	6.25	6.06
3	5.50	5.83	4.75	5.25
4	4.83	4.72	5.45	4.69
5	5.89	5.61	5.10	4.25
6	6.28	6.39	6.00	6.35
7	5.83	5.33	5.10	5.56
8	2.89	3.94	3.65	2.38
9	4.56	5.89	4.60	4.94
10	4.50	4.67	5.00	5.19
11	5.94	6.22	6.10	6.00
12	5.83	5.94	6.05	6.25
13	6.11	5.72	6.05	6.50
14	5.28	4.33	5.40	5.56
15	6.28	5.28	5.75	5.13
16	5.44	5.61	5.85	5.94
17	4.72	5.44	5.30	5.31
18	6.67	6.56	6.55	6.69
19	4.33	4.22	4.05	3.50
20	5.56	4.83	5.15	5.81
21	6.67	6.33	6.65	6.63
22	5.83	5.50	5.60	6.00
23	2.89	3.33	2.95	3.19
24	1.72	2.44	1.65	1.88
25	2.06	2.78	2.10	2.13
26	4.83	5.28	5.20	4.56
27	5.39	5.06	5.95	5.06
28	4.17	4.17	4.60	5.38

6A: n=18, 5A: n=18, 4A: n=20, 3A, 2A, 1A: n=16

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TABLE 28

MEAN SCORES FOR THE SCHOOL CLASSIFICATIONS
SCHOOL BOARD PRESIDENTS

Characteristic	6A	5A	4A	3A, 2A, 1A
1	3.13	2.19	2.06	2.57
2	5.47	6.13	5.88	6.14
3	5.67	4.88	4.16	3.29
4	5.00	4.63	5.53	5.93
5	5.93	6.44	6.29	6.14
6	6.60	6.56	5.71	5.28
7	5.47	5.63	5.41	6.00
8	3.27	4.06	3.53	3.36
9	4.00	3.38	3.12	2.71
10	5.40	5.06	4.94	5.57
11	5.33	5.88	5.76	5.93
12	6.07	6.31	6.18	5.71
13	6.80	6.88	6.06	6.46
14	4.73	5.06	4.41	3.93
15	6.67	6.13	6.47	6.21
16	4.87	6.13	5.88	5.29
17	4.13	4.56	4.65	4.21
18	6.20	6.63	6.29	6.29
19	3.47	3.75	3.18	4.71
20	6.13	6.06	5.71	5.86
21	6.53	6.63	6.59	6.79
22	6.27	5.81	5.82	6.00
23	3.47	3.06	3.41	4.21
24	2.27	1.75	2.47	1.93
25	1.73	1.88	2.29	2.93
26	5.00	4.75	3.76	5.07
27	5.13	5.50	5.53	5.93
28	5.07	5.50	4.71	4.57

6A: n=15, 5A: n=16, 4A: n=17, 3A, 2A, 1A: n=14

When the 28 characteristics are ranked by mean scores, as to their importance (least to greatest), each group ranks the areas differently. Tables 29-32 show the rank order of importance (least to greatest) of each of the responding groups according to school classification by size.

TABLE 29

RANK ORDER FOR IMPORTANCE OF CHARACTERISTICS AS
DETERMINED BY MEAN SCORES OF STUDENT BODY PRESIDENTS

Characteristic	6A	5A	4A	3A, 2A, 1A
1	8	12	14	2.5
2	9	8.5	4	13.5
3	14.5	17	16	9.5
4	21	18	23	26
5	2.5	11	15	2.5
6	23	21	20	17
7	11	15	19	20
8	1	1	1	1
9	12.5	4	2	7
10	4.5	10	7	13.5
11	18.5	14.5	11.5	23
12	18.5	13	11.5	19
13	25	25.5	25	23
14	17	8.5	8	18
15	20	22	17	15.5
16	15	14.5	9.5	12
17	4.5	5	13	8
18	26	24	26	23
19	6	2.5	3	5
20	24	25.5	22.5	25
21	28	28	28	27
22	27	27	27	28
23	12.5	19.5	18	11
24	2.5	2.5	5.5	4
25	7	6	5.5	6
26	14.5	23	23	21
27	21.5	19.5	21	15.5
28	10	7	9.5	9.5

6A: n=17, 5A: n=18, 4A: n=20, 3A, 2A, 1A: n=16

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TABLE 30

RANK ORDER FOR IMPORTANCE OF CHARACTERISTICS AS DETERMINED BY MEAN SCORES OF BUILDING REPRESENTATIVES OF THE TEACHER ORGANIZATION

Characteristic	6A	5A	4A	3A, 2A, 1A
1	3	3	1	2
2	21	21	14.5	25
3	14	15.5	12	8.5
4	8	8	9	14
5	12.5	19	10.5	16.5
6	25	26	21.5	23
7	23	24	23	16.5
8	5.5	5	5	5
9	16	18	13	10
10	12.5	11	10.5	12
11	25	22	25.5	20
12	22	23	25.5	21.5
13	27	27	24	26.5
14	20	15.5	14.5	24
15	19	20	21.5	21.5
16	18	13	19	18
17	9	14	16.5	11
18	28	28	27.5	26.5
19	7	7	6	6.5
20	11	17	16.5	15
21	25	25	27.5	28
22	10	12	18	13
23	4	4	3	4
24	1	1	4	1
25	2	2	2	3
26	5.5	6	7.5	8.5
27	17	9.5	7.5	6.5
28	15	9.5	20	19

6A: n=17, 5A: n=18, 4A: n=20, 3A, 2A, 1A: n=16

TABLE 31

RANK ORDER FOR IMPORTANCE OF CHARACTERISTICS AS DETERMINED BY MEAN SCORES OF PRINCIPALS

Characteristic	6A	5A	4A	3A, 2A, 1A
1	1	1	2	2
2	23	21.5	26	23
3	16	21.5	9	14
4	11.5	10	17	9
5	21	18.5	11.5	7
6	25.5	27	22	25
7	19	15	11.5	17.5
8	4.5	5	5	4
9	9	23	7.8	10
10	8	9	10	13
11	22	25	25	21.5
12	19	24	23.5	24
13	24	20	23.5	26
14	13	8	16	17.5
15	25.5	13.5	19	12
16	15	18.5	20	20
17	10	16	15	15
18	27.5	28	27	28
19	7	7	6	6
20	17	11	13	19
21	27.5	26	28	27
22	19	17	18	21.5
23	4.5	4	4	5
24	2	2	1	1
25	3	3	3	3
26	11.5	13.5	14	8
27	14	12	21	11
28	6	6	7.5	16

6A: n=18, 5A: n=18, 4A: n=20, 3A, 2A, 1A: n=16

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TABLE 32

RANK ORDER FOR IMPORTANCE OF CHARACTERISTICS AS DETERMINED BY MEAN SCORES OF SCHOOL BOARD PRESIDENTS

Characteristic	6A	5A	4A	3A, 2A, 1A
1	3	3	1	2
2	17.5	21	21.5	23.5
3	19	11	8.5	5
4	11.5	9	15.5	19
5	20	24	24.5	23.5
6	26	25	17.5	13
7	17.5	16	14	21.5
8	4	7	6	6
9	7	5	4	3
10	16	12.5	13	15
11	15	18	19	19
12	21	23	23	16
13	28	28	26	27
14	9	12.5	10	7
15	27	21	27	25
16	10	21	21.5	14
17	8	8	11	8.5
18	23	26.5	24.5	26
19	6	6	8.5	11
20	22	19	17.5	17
21	25	26.5	28	28
22	24	17	20	21.5
23	5	4	5	8.5
24	2	1	3	1
25	1	2	2	4
26	11.5	10	7	12
27	14	14.5	15.5	19
28	13	14.5	12	10

6A: n=15, 5A: n=16, 4A: n=17, 3A, 2A, 1A: n=14

As indicated by the data listed in the tables, there was never a significant difference found when making comparisons within the groups as broken down by school size. In each of the areas tested, using the appropriate degrees of freedom, the F ratio had to be 8.57 or greater to indicate a significant difference.

The largest F ratio found in the student body president respondents was 2.89. This ratio was found when the student group responded to if the school should contact parents that fail to report student absences. This topic raised the most difference in opinion, but it fell far short of the 8.57 required to indicate significant differences. Only in 2 other instances did the F ratio even exceed the 2.00 mark. An example of the closeness of thought of this group can be seen in that in 18 of the 29 characteristics, the F ratio failed to even reach the 1.00 mark.

The teacher group had the largest difference in perception about the idea that incentive programs should be offered to encourage good student attendance. The F ratio reached on this characteristic was 2.97. Again this number was far short of the 8.57 mark required. It is again interesting to note that on 18 of the 28 characteristics, an F ratio of 1.00 could not be reached.

A look at the F ratios for the principal group shows a maximum score of 2.73. Like the student group, this F ratio was found when testing the characteristic that the school should contact the parents should they fail to report student absences. As in the other examples, a score of 2.73 fell far short of the 8.57 required score. The principal group had 16 of 28 F ratios fall below the 1.00 mark.

The school board president group had the greatest amount of differences of any group surveyed. The characteristic dealing with it being the students responsibility to obtain work missed due to excused absences resulted in an F ratio of 6.34. This score was as close to the 8.57 required score as could be found in any other group. This group had 3 F ratios that exceeded the 3.00 mark and a total of 6 F ratios that were in excess of the 2.00 mark. Even though there was a greater range of differences, this group still had 16 of 28 F ratios that were less than 1.00.

The data obtained when making comparisons within the individual group indicates that the groups tested had consistent perceptions toward the 28 characteristics found in attendance policies of the state of Kansas.

Summary of Data

In summary, significant differences were found to exist between how the student body presidents, building representatives of the teacher organization, principals, and school board presidents perceived the various characteristics found in attendance policies of the state of Kansas. It is interesting to note that in 19 of 20 instances where there was a significant difference between perceptions of the characteristics found in attendance policies in the state of Kansas, the difference was between a student under the jurisdiction of the guidelines and an adult not under the jurisdiction of the guidelines. The greatest number of significant differences, 9 of 20, were found to be between student body presidents and building representatives of the teacher organization. On characteristics 1, 2, 24, and 25, a significant difference was found to exist between the student body president group

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and each of the building representatives of the teacher organization group, principal group, and school board president group.

There was no significant difference found to exist between how the various characteristics found in the attendance policies of high schools in the state of Kansas are perceived within individual groups as broken down by school classification (6A, 5A, 4A, and the group made up of 3A, 2A, and 1A).

*A STUDY OF PROBLEMS AND EFFECTIVE STRATEGIES IN THE PROVISION OF SPECIAL EDUCATION SERVICES IN THE SMALL RURAL PUBLIC SCHOOL DISTRICTS OF NEW MEXICO

by

Paul Allan Wirth and Jack T. Cole

Overview

The purpose of this study was to identify the problems and strategies in providing special education services in the small rural public school districts of New Mexico. Three general research questions and subquestions in eight research areas were investigated. . .The general research questions were:

1. What are the problems of small rural public school districts in New Mexico in providing special education services to exceptional children as they are perceived by special education administrators and special education teachers?
2. What are the strategies that have been employed by small rural public school districts in New Mexico to overcome problems in providing adequate special education services for exceptional children?
3. Do special education administrators and special education teachers differ in opinion on the ranking of problems or on the severity of problems in providing special education services in the small rural public school districts of New Mexico?

The specific subquestions were:

a. Student Programs and Services
   1) What special education programs/services are available in small rural public school districts?
   2) What special education service delivery models have been used?
b. Transportation
   1) Do small rural public school districts have transportation problems which affect the delivery of services to exceptional children?
   2) What strategies have been used to improve transportation services?
c. School Finance
   1) Do the small rural public school districts have problems in provision of adequate financial support for special education services?
   2) What strategies have been employed to best utilize special education funds?
d. Staffing/Recruitment
   1) Do the small rural public school districts have problems in staffing/recruitment of special education teachers and related services professionals?
   2) What successful recruitment strategies have been employed?
e. Staff Retention
   1) Do the small rural public school districts have problems in retention of special education teachers and related services professionals?
   2) What successful staff retention strategies have been utilized?
f. Staff Development
   1) Do the small rural public school districts have problems in provision of special education staff development activities for professionals?
   2) What effective staff development strategies have been used?
g. Equipment and Materials
   1) Do the small rural public school districts have problems with lack of appropriate special education equipment and materials?
   2) What equipment and materials have been effective with rural special education students?
h. Other Problems
   1) What other problems in providing special education services are identified by small rural public school districts?

In addition, based on a review of the literature and feedback and suggestions from local special education teachers and administrators, recommendations for the purpose of improving the delivery of services to rural exceptional children in New Mexico were generated.

A review of the literature indicated that limited information was available pertaining to rural education in general, and even less emphasis had been placed on research and data collection involving the education of rural exceptional children. This study was unique in that it investigated small rural public school districts, and that it involved the only state which has chosen not to participate in Public Law 92-142.

There are 20 small rural public school districts in New Mexico with an average daily membership of 300 or less. The in-depth, on-site interview method was utilized to collect data from one special education teacher and one special education administrator in each of the 17 participating school districts. Various problems precluded all 20 districts from being involved in this investigation.

The Small Rural School District Special Education Interview Schedule was developed through a method using the following steps: (a) formation of research questions and interview schedule by the

*Excerpts obtained from: Wirth, P.A. and J. T. Cole. A Study of Problems and Effective Strategies in the Provision of Special Education Services in the Small Rural Public School Districts of New Mexico. Monograph No. 1, Center for Rural Education, College of Education, New Mexico State University, Las Cruces, New Mexico, August, 1982, Everett Eddington, Director.

researcher, (b) review of the research questions and interview schedule by a faculty committee at New Mexico State University, (c) revision of these documents by a qualified editor/technical writer, (d) review of the research questions and interview schedule by a national panel of rural special education experts, (e) pretest of interview schedule, and (f) pilot test of the schedule in two New Mexico public school districts with average daily membership between 300 and 500. The final document included 65 questions which provided information relative to the three general research questions and the subquestions formulated in the eight research areas.

A majority of the interviewees concluded there was a severe or moderate problem in the provision of special education services for the areas of staff recruitment, staff development, and compliance with state education regulations. A sign test applied to this data revealed a significant systematic difference in opinion between teachers and administrators only in the areas of staff recruitment and appropriate equipment and materials.

Referring to the ranking of problem areas, teachers ranked the three most severe problems as appropriate equipment and materials, related services staff recruitment, and staff development; while administrators cited related services staff recruitment, program compliance, and staff development. A sign test applied to this data indicated a significant difference in ranking between teachers and administrators only in the area of appropriate equipment and materials.

Specific Recommendations

In total, interviewees discussed 54 different, specific effective strategies which refer to the problem areas investigated in this study. As an overall suggestion when a problem is identified in a small rural public school district, all the effective strategies depicted for that area should be thoroughly explored to evaluate whether any are adoptable to the specific needs of the district.

Based on a review of the literature and input from respondents, the following specific recommendations seem particularly appropriate for improving services to exceptional children in the small rural public school districts of New Mexico. These suggestions reflect the problem areas identified in this study, are typically interrelated, and are related to the general recommendations discussed previously.

1. It would be beneficial if state technical assistance was immediately supplied to the small rural public school districts in the following areas: (a) developing Child Find programs, (b) providing services for special education students 18-21 years old, (c) developing appropriate student assessment and student placement procedures, particularly in relation to related services, (d) establishing preschool services for the handicapped, (e) developing policies and procedures for close cooperation between local districts and service alternative providers (e.g., community programs, residential facilities), and (f) establishing programs for the gifted.
2. Small rural and public school districts might work with surrounding districts to coordinate Child Find efforts. The cooperative activities of the Wagon Mound, West Las Vegas, Mora, and Las Vegas city schools could be used as a model for other districts to emulate.
3. The State Department of Education could disseminate information to the small rural public school districts on procedures for the emergency funding of school vans and other vehicles for use with the handicapped.
4. School districts with transportation problems might explore the practicability of utilizing feeder routes.
5. Local special education staff might preview new equipment/materials through utilization of materials fairs, regional resource centers, university/college materials centers, or interdistrict loans before purchasing these classroom items.
6. Small rural public school districts could investigate various additional sources of special education funds to initiate special projects. Several school districts could work together to apply for state, federal, or private grants. State technical assistance may be made available for distributing information on requests for proposals and assisting in grant writing.
7. Small rural public school districts might explore the feasibility of establishing interagency agreements to provide health/nurse services, audiological services, psychological services, and other possible services.
8. Active recruitment of special education and related services professionals could involve the following strategies: (a) utilization of in-state and out-of-state university/college placement centers, (b) cooperation with surrounding school districts by sharing information on teacher applicants, (c) personal contact by teachers with other professionals through university/college education classes, (d) direct contact with special education chairpersons/coordinators to attain information on possible candidates, (e) advertisement of openings in newspapers in the metropolitan areas of New Mexico and surrounding states, (f) recruitment of statewide conferences/conventions of professional groups (e.g., speech and language pathologists could be recruited at the New Mexico chapter of the American Speech, Hearing, and Language Association (ASHLA) yearly conference).
9. Local staff might be encouraged and supported to return to a university/college to pursue certification or licensure in areas of critical district need. The strategies of awarding paid sabbaticals and paying tuition for summer coursework for this purpose should be seriously considered.
10. The strategy of purchasing or building teacherages should be thoroughly explored and implemented if feasible.
11. The four-day school week calendar could seriously be considered for adoption. Preliminary evaluation of this alternative calendar indicated that schools in New Mexico implementing this made gains in student achievement and economic savings (New Mexico four-day, 1981). This could also be very beneficial in the areas of staff recruitment, staff retention, and provision of transportation services.
12. Staff retention/staff development strategies of supporting interdistrict visits, sponsoring conference/workshop attendance, and allowing professional release time might be used regularly and systematically.

13. Small rural public school districts could join with other surrounding districts to provide regular, monthly regional inservice training opportunities for special educators and related services professionals.

14. All professionals and paraprofessionals in the district could receive yearly inservice training on basic special education topics. Service delivery alternatives include use of (a) commercially prepared materials, (b) outside consultants, (c) local staff, or (d) regional staff. This basic information on special education might also be presented to the local school board and made available to any interested local organization.

15. Local school districts could develop yearly, district-wide comprehensive personnel development plans which include and integrate staff development activities for special education teachers and related service professionals.

16. Small rural public school districts might seriously consider increasing their use of instructional technology, including microcomputers and instructional packages, to better provide special education services. Instructional technology could be used as classroom aids and tools to improve acquisition of instructional goals. State technical assistance could be made available along with assistance from the regional resource centers. In addition, this is an area where inservice training appears to be a high priority.

17. Various community resources could be explored to provide better services for exceptional children. Volunteers may work as additional aides in the classroom, and many individuals in the community could help direct special projects with gifted students. For example, in one school district polled, the curator of a local museum/monument provided expert guidance for a group of gifted students who were studying archaeology.

18. 4-H for handicapped programs could be initiated in local communities. The 4-H program could provide opportunities for exceptional children to develop independent living skills, occupational skills, social skills, and leisure time skills. In addition, these activities could be instrumental in developing public awareness and acceptance of special education. Other similar activities or programs should be considered.

19. Small rural public school districts might develop a two-phase parent training program. Initially, special education teachers and other staff appear to need intensive inservice training in the areas of parent involvement and parent training. After completion of these staff development activities, a formal program could be started to systematically promote parent awareness and encourage parent involvement in the education of their handicapped children. This training should also stress working with minority and non-English speaking parents. The intent could be to increase parent activity beyond simply signing IEP's and attending annual conferences.

20. Small rural public school districts might consider combining special education program levels to more effectively utilize staff and school funds.

Recommendations for Future Research

Based on this study, the following recommendations for future research are made:

1. Future studies could identify the problems and effective strategies in providing special education services in the other 69 school districts in New Mexico. The objectives, purposes, and procedures of this study could serve as a foundation for examining special education programs in school districts within the following enrollment categories: (a) average daily membership between 301 and 1,000, (b) average daily membership between 1,001 and 5,000, and (c) average daily membership greater than 5,000. The information generated by this proposed research would seem vital in local and statewide planning for the provision of comprehensive special education services for all exceptional children.

2. The 29 other special education and related problem areas discussed by the participants in this study could be systematically explored to determine their extent and severity within the small rural public school districts of New Mexico. Many of these problem areas have not been discussed in the rural special education literature and could provide further insights into the provision of adequate special education services. In particular, lack of parent/guardian involvement, and insufficient school board and community support of special education appear to be critical areas to investigate.

3. This study was based on input and feedback from special education teachers and special education administrators, however, future research efforts in the small rural public school districts could include the reactions and opinions of school board members, parents/guardians, and exceptional students.

4. It appears that it would be beneficial if a comprehensive study was conducted in New Mexico to describe the special education student population. Three key questions might be addressed: (a) What are the prevalence rates for the various categories of disorders? (b) What are the incidence rates for the various categories of disorders? and (c) Are either of the above factors affected by size of school district, size of community, or region of the state?

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LEGAL NEGLIGENCE AND THE COMMUNITY EDUCATOR

by

Robert J. Shoop

"You are hereby notified that an action has been commenced against you in this court. You are required to file your answer to the petition with the court within twenty days after service of summons upon you. If you fail to do so, judgement by default will be taken against you for the amount of $275,000.00."

With each passing year more and more educators are being taken to court and charged with liability. The great majority of liability cases against the educator have to do with negligence, which is considered to be any conduct which falls below standard for the protection of others against unreasonable risk of harm. Because of the wide variety of activities that take place in a comprehensive program of community education, the possibility of negligent action is very great.

In theory, a community educator exercising adequate supervision would prevent all injuries to students under his or her care. However, the courts have ruled that educators cannot be expected to prevent all injuries. When such a large number and wide variety of people are brought together, it is inevitable that accidents will happen or that one student may deliberately injure another.

The purpose of this article is to help the community educator to develop a greater awareness, understanding and appreciation of liability and to suggest some action that might be taken to prevent being a defendant in a litigation.

Because of the increasingly active role that the courts have played in public education, it is very important for all community educators to be aware of what laws apply to the day-to-day operation of the schools, and how these laws apply to them. Many community educators have only a limited understanding of what their legal rights and responsibilities are. Community educators, like other Americans, are expected to know the law. The courts will not accept ignorance of the law as a defense. The courts uniformly adhere to the concept of "ignorantia eorum quae quis sciee tenetur non excusat" which translates ignorance of those things which one is bound to know excuses not. The courts operate under the assumption that a professional educator is expected to know the laws that relate to his or her profession.

In reality, however, it is often difficult to know just what the law is. For law is more than the statutes passed by the legislature and signed by the governor or president. It is also more than the constitution and its amendments. What the law really says must be determined by the courts. Because of this, the law is not a static set of printed documents, but a living and changing set of precepts which depend on the courts for interpretation. The courts make their determination about specific cases by considering the statutory provisions and the particular set of circumstances of the specific case. As a result of their flexibility in interpretation, laws change as the values and social mores of the community change. Social, political, economic, and environmental conditions and circumstances affect the determination of the law. In the final analysis the law is what the specific court says it is.

In our society there is a constant tension between protecting the rights of the individual and protecting the rights of the society as a whole. Laws have developed for the protection of the individual's rights and to enhance the welfare of the civilized community. These laws grant each individual certain personal rights, such as freedom from personal injury and security of life, liberty, and property. It has been said that "the only defensible object or end of any law is the maximization of the happiness of the greatest number of the members of the community in question.[1] The laws that protect individual rights also impose corresponding duties and responsibilities on each individual to respect the rights of others. If a community educator fails to respect these rights, whether intentionally or by accident, thereby damaging another individual, he or she has committed a tort and may be held financially liable for his or her actions.

"A tort is a civil wrong not involving contract. The term is applied to a variety of situations where one suffers loss due to the improper (but noncriminal) conduct of another."[2] Courts will hold those who commit torts liable in damages to those injured.

The community educator is not expected to guarantee that a child under his or her supervision will not be injured. Because they stand "in loco parentis" (in place of the parent) to the child, they are not expected to provide a greater degree of care than could be expected of the parents.

In determining what a person should or should not have done in a given situation, the courts have traditionally asked "What would a reasonable man have done in a similar situation?" Various courts have described this hypothetical person as: a man of average prudence, a man of ordinary sense using ordinary care and skill.[3] However, with regard to educators, the generally accepted standard of care would be that of a reasonably prudent educator, not that of a reasonably prudent layman. It is agreed that the standard of care owed to a student by a teacher is expected to be greater because of the professional status.

The most common tort is negligence. Negligence is any action which falls below a certain standard which results in injury to another person. An accident which could not have been prevented

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1 Chadman, Charles E. (Ed), Chadman's Cyclopedia of Law. American Correspondence School of Law, 1912. Citing Locke's Works II, p. 6.

2 Reutter, E. Edmund and Hamilton, Robert R. The Law of Public Education. The Foundation Press, 1976, p. 272.

3 Alexander, Kern; Corns, Ray and McCann, Walter, Public School Law. West Publishing Company, 1969, pp. 87-88.

by a reasonably prudent person is not the result of negligence. However, many apparent accidents can be traced to the actions or inactions of another person. For example, if a community educator is supervising a group of students playing baseball and a student misjudges a fly ball and is hit in the face, under normal circumstances, that injury would not be grounds for the charge of negligence. However, if in a similar situation a bat is cracked and the supervisor allows the child to play with it, and a student's hand is injured, that may be grounds for a negligence suit. Circumstances play a big part in determining an action negligent.

As the degree of risk increases, the standard of expected care also increases. For example the degree of care that would be expected of a community educator who was supervising classes in physical education, chemistry, shop or driver education would be higher than that of the community educator who was supervising a class in painting, speed reading or photography.

The age and capabilities of the participants are also factors in determining what level of care is expected. Similarly, the greater an infirmity or handicap, the greater the degree of care that would be expected.

Where the community educator can show that the supervision was adequate he or she will generally not be held responsible.[4] The courts have ruled that "there is no requirement that the teacher have under constant and unremitting scrutiny the precise spots wherein every phase of play activity is pursued ... nor is there compulsion that the general supervision be continuous and direct, so long as it is otherwise adequate."[5] However, the educator is expected to protect the student from reasonably foreseeable risk. The courts do not expect the supervisor to have superhuman powers to foresee a danger. But they do expect the teacher to protect the student from reasonably expected hazards.

The standards commonly used to determine whether an action is negligent are: 1) Did the defendant owe the injured party some duty? 2) Did the defendant fail to perform this duty adequately? 3) Did the injury result from this failure to perform this duty?[6] Negligence is a matter of fact and must be decided by the jury on instructions from the judge, who notes points of law. When a court determines that an educator is negligent it often awards damages to the injured party. The purpose of this type of award is to make the plantiff "whole again" and is aimed at compensating the person who has suffered a loss. Normally these damages are measured in terms of money. There are three types of damages that can be awarded. Compensatory damages that are awarded in an effort to compensate the injured party for his injury and nothing more. These damages generally cover medical expenses, court costs, attorney's fees, and loss of income. A second type of damage is referred to as exemplary damages. These are damages that are awarded for the purpose of punishing the defendant for his negligence. A third category of damages are normal damages. This is usually a very small amount awarded where negligence has occurred but very little loss has been suffered.[7] The punishment for negligence is based on the assumption that "negligentia semper habet infortunium comitem" or negligence always has misfortune as a companion.[8]

To recover damages for negligence, a person must establish that (1) the defendant has been guilty of negligent conduct toward the plaintiff and (2) that the plaintiff has suffered an injury as a result of such conduct. Negligence without injury is not actionable.[9] The injured party has the burden of proving how and when the defendant was negligent. The so-called "res ipsa" doctrine permits a plaintiff to establish a prima facie case of negligence simply by showing that: 1) the event which injured him would not have occurred in the absence of negligence and 2) the defendant was in exclusive control of the instrumentalities causing harm. The latin words "resipsa loquitur" are translated to mean "the thing speaks for itself" and where this doctrine is held to apply, the defendant must defend himself against the prima facie case thus made or run the risk of having judgement rendered against him.[10]

It must be remembered that this discussion has focused on liability that has resulted from negligence, not criminal action. In tort liability (where no criminal action is involved), the injured party must bring action against the defendant. If a criminal act is involved, the state will bring criminal actions. However, in either type of action it is an established principle of common law that a school district is not liable for negligence or criminal acts committed by its employees.

Applying the basic assumptions from above, the following is a list of guidelines that will assist the community educator to avoid being a defendant in a liability suit.

1. Be sure that all activities are authorized by the sponsoring agency.
2. Be sure that adequate instruction is provided before any activity begins.
3. Be sure that supervision is conducted only by qualified personnel.
4. Be sure that all activities will be conducted in a safe place.
5. Be sure that the participants are aware of all rules and regulations and that these are enforced.
6. Be sure that participants are warned of the consequences of any dangerous acts.
7. Be sure that obviously dangerous activities are prohibited.

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4 Shoop, Robert J. The Teacher and the Community: A Case Study Approach. Collegiate Publishing Company, 1979, pp. 90-93.

5 Nolte, M. Chester. How to Survive Teaching: The Legal Dimension. Teach'em, Inc., 1978, p. 99.

6 Ibid. p. 97.

7 Ibid. p. 108.

8 Black, Henry Campbell. Black's Law Dictionary, West Publishing Company, 1979, p. 933.

9 Lusk, Harold F. and Hewitt, Charles, M. Business Law: Principles and Cases. Richard D. Irwin, Inc., 1978, p. 68.

10 Ibid. p. 71.

8. Be sure that all equipment is kept in good repair.
9. Be sure that first aid is administered appropriately and with due care.
10. Be sure to keep an accurate record of all accidents and injuries.

Perhaps the soundest approach to establishing a realistic supervisory relationship would be to begin with the concept that parents entrust schools with their children for the specific purpose of educating them in as efficient, fair, and reasonable a means as possible. Once the child is within the school, he or she is subject to the authority of the school and the school's employees for the sake of the accomplishment of a goal common to all students within the school system. Because of its entrustment, the school has the obligation to be fair and responsible in the exercise of its authority. It is the community educator's responsibility to ensure that the each student under his or her supervision will be safe from foreseeable harm.

AN INTERRELATED SERVICE DELIVERY APPROACH

by

Greg Gaither

During the last year and a half, the East Central Kansas Cooperative in Education has been conducting research to determine the efficacy of the inter-related service delivery approach. The interrelated approach for delivering special education services is based on two main premises.

First of all, there are several problems inherent in the categorical approach to delivering educational services to handicapped youngsters. One difficulty is the ambiguity of categorical definitions. Often the categories for designation of each handicapping condition are unclearly defined and thus are not conducive to sound educational planning. Secondly, during the past two decades, the efficacy of categorical placement has come into question. Research (Johnson, 1962; Goldstein, Moss, and Jordan, 1965; Dunn, 1968) has failed to show that categorical placement is the best alternative for educating handicapped children. Finally, the "labeling" which results from placing students into categorical programs is thought to be psychologically damaging by emphasizing how the child is "different". Using an interrelated delivery model circumvents the above difficulties with the categorical approach.

The second major reason for using the interrelated approach is its efficiency in the rural area. Educational costs are rising rapidly, with Special Education (SPED) per pupil costs increasing at a rate approximately two times those of regular education (Report to Congress, 1978). The interrelated approach offers an efficient way to utilize special education personnel and to cut transportation costs. In addition, the interrelated approach helps carry out the rules and regulations of the Least Restrictive Environment (Section 121a552) section of PL 94-142, which states in part that each child's educational placement should be as close as possible to the child's home. Due to the rural nature of the districts in this Co-op, many mildly handicapped children have had to be bussed out of their neighboring districts. By using the interrelated model, most of these children can attend the school in their own district. This maximizes their opportunities to form friendships with children in their neighborhood/town, to participate in extracurricular activities, and to attend school in the most "normal" manner possible.

With these thoughts in mind, our research has centered around investigating a number of key questions. Several of the main questions are as follows:

QUESTION #1 - What type of inservice training do teachers need to implement an interrelated program?

Early in the school year (1981-1982), interrelated teachers were asked to identify their preferences for inservice training. The five key priorities they identified were:

(1) Improve student ability in reading
(2) Deal with unique problems and techniques for LD, EMH, and PSA students
(3) Establish and maintain student behavior for effective instruction
(4) Organize, set-up, and manage classrooms for effective instruction
(5) Effectively utilize instructional materials

Two major types of inservice activities were carried out. The first was a semester long course which covered the five topics earlier identified. The second type of inservice consisted of four "inservice work days" in which the above topics were also addressed.

QUESTION #2 - Is an interrelated service delivery approach as effective in producing adequate student progress and achievement as a more traditional categorical approach?

Student progress in the ECK Co-op, interrelated classroom was compared to that of the Leavenworth Co-op, Categorical classroom using the Woodcock-Johnson and the Behavior Rating Scale as the assessment devices. A pretest - posttest comparison of scores showed that there was a significant change from pretest to posttest scores for all students, but there was not any significant difference between the two groups.

QUESTION #3 - How does consumer satisfaction with the interrelated service delivery approach compare to that of a categorical program?

In evaluating consumer satisfaction, satisfaction with interrelated SPED service (ECK Cooperative) was compared to satisfaction with categorical SPED services (Leavenworth Cooperative). Two types of surveys were used to measure consumer satisfaction. These were the People Evaluating Programs Consumer Satisfaction Survey and the Minnesota Satisfaction Questionnaire. School administrators, SPED teachers, SPED support staff, regular education mainstream teachers, and parents of mildly handicapped LD, PSA, and EMH students completed these surveys. Comparing pretest and posttest results, no significant differences in program satisfaction were found between the two groups.

In addition to these key research questions, we have also been looking at additional questions.

(1) What is the best way to organize and implement interrelated classrooms?
(2) What type of support services do teachers assigned to interrelated classrooms need in the areas of behavior management, instructional planning, and instructional methods and materials?
(3) What procedures maximize the efficiency of the interrelated classroom? (In this we are primarily investigating the amount of time teachers are engaged in the various activities required to operate an interrelated classroom.)

In conclusion, the results and experience which were forthcoming from the first year's activities have provided a basis for developing a data base and strategies related to:

(1) a description base of information related to interrelated staff activities and needed support services,
(2) evidence of needed inservice areas and effective in-service strategies for interrelated staff, and

(3) evidence of consumer satisfaction and student progress.

Although the second project year will continue activities related to these objectives, in order to expand and validate the first year's findings, more focus will be placed on completing and developing products which will be useful to staff in this and other cooperatives who may choose to use an interrelated service delivery model. Specifically, the following activities are currently underway:

(1) an investigation of the cost effectiveness of the interrelated programs,
(2) development of a consumer handbook related to implementing interrelated programs,
(3) the completion of a slide show related to key components of an interrelated program, and
(4) the revision and improvement of research and documentation strategies based during the first year's experience.

HELPING RURAL EDUCATORS IMPROVE INSTRUCTION THROUGH MENTAL REHEARSAL

by

Gerald D. Bailey and John A. Hortin

The need for staff development and instructional improvement exists in all schools. However, rural and small school teachers have unique needs because they rely very heavily on their own initiative and resources for much of their instructional improvement activities. The reason for this self-reliance are fairly obvious. Rural teachers are isolated geographically and have fewer opportunities for inservice. Also teacher interaction and idea exchange among rural teachers may be good, but the interaction and idea exchange may be small or limited when compared to urban teachers. Finally, rural teachers may find less opportunity to work with curriculum specialists, supervisors, or administrators in instructional improvement activities.

Self-initiated and/or self-styled improvement programs are a solution. Current self-styled instructional improvement methods include videotaping, self-critiquing, self-assessment observation instruments and student feedback (Bailey, 1981a, 1981b). One of the most exciting new strategies in this area is mental rehearsal.

Mental rehearsal is the process of using imagery to practice teaching behavior prior to the act of teaching (Bailey and Hortin, 1982; Hortin, 1981; Hortin and Bailey, in press). It is a process of imagining, thinking about and visualizing the act of teaching before an imagined audience. If rural educators can be trained to mentally rehearse methods, activities, demonstrations and teaching behavior, they can provide themselves with a means to instructional improvement through their own self-initiated, self-improvement program. Mental rehearsal can be used with many other forms of self-directed self-improvement strategies such as self-critiquing, videotaping observation instruments or student feedback.

Mentally rehearsing a presentation before the imagined class gives the teacher another alternative when attempting to improve his/her instruction.

One of the most common purposes of mental rehearsal is relaxation. The use of mental rehearsal can be used by the rural teacher to relax himself or herself prior to the teaching lesson. This means mental concentration of how to relax different parts of the body. Again, this type of mental rehearsal is very similar to a type of mental rehearsal used by athletes. Teachers can use this type of mental concentration to relax the tension of muscles, direct the flow of blood and coordinate activities of the physical body. The process of mental rehearsal is to concentrate on the physical attributes of the body which allow the teacher to achieve a relaxed, but confident mental state.

The use of mental rehearsal for positive thinking is not a new concept. Teachers usually find that their mood during the act of teaching is influenced by how they felt prior to the actual lesson. If one feels positive about teaching, students and the content, there is greater likelihood for a successful classroom teaching experience. Mental rehearsal can be used as a technique to achieve positive feelings about events that will transpire. Higher concentration of positive thoughts concerning self and the the rewards of teaching can affect the ultimate performance of the teacher. Teachers who practice mental rehearsal with positive thinking as the focus often concentrate on: (1) previous positive teaching experiences, (2) similar previous conditions that were pleasant and successful and (3) a positive frame of mind about being successful.

The most common example of positive thinking working in reverse (negative mental rehearsal) can be observed in daily life. Picture the individual who is anticipating a scheduled appointment with the dentist. In that person's mind, there are negative thoughts about the upcoming visit. The person envisions the dentist drilling or pulling a tooth; the pain can be felt. If these negative thoughts occur on numerous occasions the person begins to become apprehensive and negative about the upcoming experience. In all likelihood, the person prepares himself or herself for the worst. The person who practices this type of negative mental rehearsal reinforces negative thoughts. Either the person's expectations are fulfilled or if nothing bad happens, the person suffers from mental and physical fatigue. The products of negative mental rehearsal are less than positive in either outcome.

The third type of mental rehearsal is not uncommon to those people in many professions who need to "get ready" for the task. It is the psychological preparation which leads to either a feeling of exhilaration or calm. This form of psychological preparation is chosen because it allows the person to complete the task with ease and efficiency. The terms coined by people who use this form are preparation are "psych up" or "psych down." Mental rehearsal involves the mental creation of an attitude or the creation of an aura which will prevail during the period of time that the individual must perform. The state of mind and condition of the body are important to the ultimate performance. In this type of mental rehearsal, the teacher can conjure many different thoughts that assists in developing the appropriate mental and physical readiness.

Teachers can identify with this act when they are faced with going into a class and demonstrating an attitude toward the class or subject. This psyching up or psyching down is frequently necessary in order to convince the students of the instructor's sincerity or interest. Without doubt, the teacher's mental and physical readiness impacts on the learning situation and this readiness can be achieved through mental rehearsal.

Teachers can use mental rehearsal to focus on specific verbal cues that are used in the classroom interaction (Bailey, 1981b). Examples of these verbal cues include: (1) accepting feeling or emotion, (2) praising or encouraging, (3) accepting or building on student ideas, (4) questioning, (5) lecturing, (6) direction giving, and (7) criticizing or justifying authority. These are terms drawn from Flanders' Interaction Analysis, which is a recognized observation instrument describing teacher behavior.

Teachers can also use mental rehearsal to focus on specific nonverbal cues that are used in classroom teaching. Examples of these nonverbal cues include: (1) energy level, (2) touching, (3) use of time, (4) teacher travel, (5) eye contact, (6) gestures, (7) mannerisms, (8) posture, (9) silence, (10) facial features, and (11) use of space (Bailey, 1981b).

If the teacher is able to pinpoint specific nonverbal cues, he/she can mentally rehearse the quality of the behavior to perfect its use in actual classroom interaction.

Content emphasis in mental rehearsal refers to factual information which is actually being talked about by the individual teacher. It essentially encompasses four qualities: (1) what--that is, cognitive information selected by the teacher as important; (2) how much--this refers to the depth of the content which is selected. When the teacher determines the area, becoming familiar with the depth of the information becomes important in the actual delivery stage. As the third quality, sequence refers to the order of the information. The teacher can order the events in a sequence which influences the outcome. Finally, time allotment, which denotes the amount of time spent on a topic, can be important to teachers as they engage in mental rehearsal.

Mental rehearsal of content is often observed in other forms of human interaction. When individuals find themselves in a debate, an argument or need to make a special presentation, they often engage in mental rehearsal which allows them to do a better job for that "special" situation.

Rehearsing the method the teacher has chosen to convey the information is also important to the outcome of the classroom lesson. Methodologies such as inquiry contracting, lecture, gaming/simulation, etc., have distinct characteristics which manifest themselves in teacher behavior. If the teacher can visualize these behaviors, they can be practiced. If a number of behaviors can be identified as critical or important to the methodology, they can be visualized mentally by the teacher. Not only the precise kind of behaviors but the sequencing of these behaviors becomes important in the methodological outcome.

Post-teaching reflection refers to the period of time that occurs when the teacher has finished the lesson. It is that time period when the teacher ponders the events which have just occurred during classroom instruction. For some teachers, this will be a fleeting moment or it can be a long, sustained period of time. For others, it will be a continual replay of the classroom events. During this time, the teacher has the ability to focus on what "went right", as well as what "went wrong." Almost all teachers will admit that it is easy to focus on the "wrong" instead of the "right." Used in a positive fashion, the teacher has the ability to replay these events, which will result in the same or better during the next classroom interaction session. Carefully controlled, this practice can lead to significantly improved classroom practice.

What types of mental rehearsal are possible?

The types of mental rehearsal are varied. They include:

1. Total: Viewing the entire teaching act in your mind (e.g. set, instructional body and closure).
2. Partial: Viewing specific segments of the teaching act in your mind [e.g. set (beginning) or closure (ending)] and
3. Fragmented: Viewing dimensions of the teaching act (e.g. nodding of head when reinforcing students).

When does mental rehearsal occur?

Again, mental rehearsal can occur at almost any time.

1. Prior to the lesson.
2. Immediately after the teaching act.
3. At the end of the day.
4. At the beginning of the day.

The answer is different for different people. Rural teachers need to find the most appropriate time for them. This will require a great deal of trial and error.

With what frequency should mental rehearsal occur?

Teachers will vary a great deal in the frequency of mental rehearsal. Obviously, the teacher cannot devote long periods of time to practice. Too much mental rehearsal may also prove counterproductive to the teacher's effectiveness. For classification purposes, there appears to be three main ways of defining frequency:

1. Frequently: an on-going daily practice.
2. Periodic: regular or weekly sessions when a perceived need exists.
3. Infrequently: only at those times during the years when an urgent or emergency situation exists.

Teachers have testified that the frequency of mental rehearsal is constantly changing depending on the emotional, physical and mental needs at a given time. With continued research, educators will be able to determine how often teachers engage in mental rehearsal.

Where should mental rehearsal occur?

No known answer exists to this question. The hidden value in mental rehearsal is that it can occur almost anywhere. Common sense suggests that an environment should be chosen that allows visual and audio isolation or at least a location that permits a high degree of concentration without interruption.

Mental rehearsal offers a unique opportunity for rural educators to engage in staff development. Mental rehearsal is not unwieldy like many other staff development strategies. However, if quality mental rehearsal is to be developed, existing skills must be refined. Those rural teachers dedicated to instructional improvement will find mental rehearsal rewarding and extremely practical if approached with common sense and openness.

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A SECONDARY READING PROGRAM FOR RURAL SCHOOLS

by

Clyde G. Colwell

Why Address Reading at the Secondary Level?

The rural schools of America face many problems. Is secondary reading an important enough issue to be taken seriously as an area of emphasis for improvement? The latest results of the National Assessment of Educational Progress would seem to indicate the issue is that important. William Eller (1981) noted in the report that:

> While the media continues to foster the view that Johnny still cannot read, and that instructional methodologies used with primary grade children are inefficient, it is noteworthy that 9-year olds in 1980 performed better than their counterparts of 1971 and 1975 on every category of reading skills. The results of this third assessment in reading call for greater attention to the comprehension shortcomings at the higher grades, not for drastic change in methods of beginning reading instruction. (p. 46)

This report indeed focuses attention on reading at the secondary level. Are these same trends evident in the rural schools?

The NAEP results were positive for rural schools in terms of 9-year olds. Rural reading achievement for 9-year olds improved by 6 percent from the previous assessment. However, those gains were not evident for older groups of rural students. Is it then a matter of waiting until this group of 9-year olds reaches the age of thirteen and then seeing continued improvement on the next NAEP? In the NAEP report, Cooper (1981) made the point that we have been waiting and anticipating improvements:

> 9-year olds improved from 1970 to 1974...those 9-year olds became the 13-year olds to be assessed in 1979. Given the performance of 9-year olds in 1974, we had every right to expect 13-year olds to make a strong improvement from 1974 to 1979. They did not. Why did the performance of 13-year olds appear to reach a plateau? Why did older students ... lose the momentum they gained earlier? (p. 47)

The answer to that question may not be too difficult. Can we expect continued improvement if reading programs end at the completion of elementary school and if the emphasis of all intervention programs remains at the primary grade levels?

Edward Fry is a nationally recognized authority on reading instruction. Fry's (1981) summarization of the negative aspects of the secondary reading portion of the 1980 NAEP was very explicit:

> The disturbing part of these assessment results is that high school students, and particularly the best students, are not only failing to keep up with their counterparts of 10 years ago, they seem to be reading worse...If reading is taught in the high schools as a separate subject, it is usually taught to only remedial or low-achievement students. The data tend to show that the only high school group that is slightly ahead of 1970 performance levels are the low-achievement groups. Again, we see reaffirmed that students seem to learn what they are taught." (p. 48)

The last eight words of that quote ("students seem to learn what they are taught") are self-evident in some respects but in other respects they are extremely profound. If a student at the end of the sixth grade year was not minimally competent in reading achievement, according to any instrument administered by the state or district, do we have any logical reason to hope for continued improvement by the end of the senior year if no reading intervention takes place? I would not think so.

What Does the Literature Recommend in General?

A comprehensive solution to the deficiencies in secondary reading has been addressed in educational literature. Generally the first step is for a district to make a conscious decision that reading is a developmental process that extends beyond the elementary school and throughout secondary school. Reading skills can be continuously enhanced, expanded, and refined to meet the demands of each level in school and to help ensure that the student will be an independent reader in adulthood.

After collecting descriptive data on national trends, Walter Hill (1971) recommended what he termed "total thrust" secondary reading programs. Specifically, he recommended that secondary schools have provisions, a combination of required and elective courses, to meet the needs of all students. This would include components for remedial, developmental, and accelerated readers. For the most part remedial courses would be required and would represent intensive, specialized reading instruction for those performing significantly below expected levels. Developmental courses would be required for some portion of the secondary school experience and would consist primarily of a refinement and expansion of present skills for those achieving at or close to a commensurate rate with grade level expectancies. Accelerated reading/study skills courses would be designed for those most likely to pursue post-secondary training of some type and, among other things, would expand their vocabulary and reading rate. Usually these are viewed as elective courses.

What Problems Does This Model Pose for Rural Schools?

As worthy and needed as Hill's model may be, it can pose some very perplexing problems for rural schools. Certainly affordability and cost effectiveness have to be serious considerations. Can you locate and hire the needed personnel? Can you purchase the necessary materials? Do you have enough students to justify each component in a "total thrust" secondary reading program? If the answer to all of those questions is affirmative, I would most heartily endorse it as a workable, comprehensive program designed to reverse many present trends in secondary reading. If the answers to the above questions are more negative than affirmative, I would recommend that you seriously consider a model I have developed and worked with that is modified to fit the needs and budgets of rural schools.

A Rural School Secondary Reading Program

As stated previously, a school district (rural or otherwise) must begin a secondary reading program with the premise that reading is a process that extends beyond the elementary level and can be improved for all learners beyond that level. Then, the issue becomes one of trying to help the largest number of students possible on a limited budget. This would seem to dictate a beginning point similar to the rural school suggestions made by Morgan (1977). That is, begin with an emphasis on staff-development for content area teachers.

With the elementary model of reading instruction, a large emphasis is traditionally placed on basal reader instruction. For the most part, this consists of reading narrative (story-type) selections. As students move more and more into content texts they are faced with a new set of learning demands placed on them by expository (informational) texts. The students cannot be assumed to have an adequate background in technical vocabulary, comprehension skills, or study skills to cope with these types of texts. Frequently, they also have difficulty with the types of graphic aids (charts, maps, graphs, diagrams, etc.) in these texts. Similarly, teachers at the secondary level cannot be expected to have had much, if any, preservice experience in working with reading and study skills. The teachers may well be unfamiliar with informal ways to assess the reading ability of the students and the readability of the texts. Many do not know strategies for teaching technical vocabulary and other reading-related skills.

If an administrator makes the decision to implement a content area reading staff-development program as the initial step, then the benefits become obvious. Directly or indirectly all students will be served and it can be accomplished with a minimum amount of expense (compared to hiring additional personnel or purchasing reading materials). The content reading component becomes the developmental portion of the secondary reading program.

The next problem to be confronted has to do with selecting the best delivery system for the staff-development program. If a college or university is nearby, inservice can be combined with course credit. Teachers can enroll in a content reading class at a college or university and the district can elect to recognize this as part of staff-development and perhaps even reward it in some way (i.e., reimbursing teachers for part or all expenses incurred for tuition and books). This model has been implemented at Manhattan (KS) High School. For a more complete description, see Ince & Colwell (1981).

Another possibility, of course, is for the district or several districts in close proximity, to hire someone to present the inservice to the faculty. The caution to keep in mind is that content reading is too involved to be adequately addressed in one or two inservice sessions. If you select this option, you should make content reading a major emphasis for a protracted period of time. The other disadvantage is that teachers have less incentive to get actively involved since they leave with no tangible outcome such as course credit. However, this method of inservice is particularly effective for districts that are not close to a college or university.

Still another choice is for the district to pay all expenses for a few of its teachers (tuition, gas, books) to commute to a university so that they can be adequately trained to present inservice to the remainder of the faculty at a later point. Obviously care should be utilized in selecting the most conscientious teachers. This type of inservice may be very well-received by the remainder of the faculty if the peers presenting the inservice have already established credibility as exemplary teachers.

One can refer to Figure 1 to see a graphic representation of some of the major topics traditionally covered in a content area reading course or set of inservice programs. Referring to the model presented in Figure 1, the major areas that are presented in content reading are shown in rectangles. The terms underneath each rectangle represent strategies that relate to each major term.

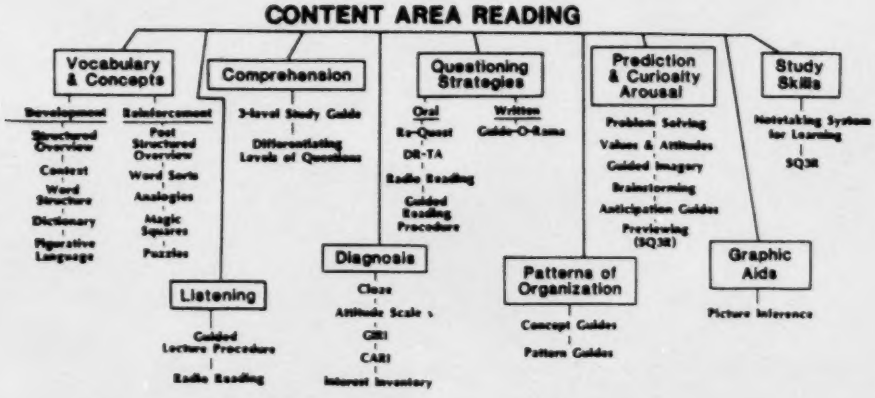

Figure 1

For the rural schools, content area reading does represent only a beginning point for secondary reading instruction--but it is a very important beginning. Students are receiving the type of help they need, when they need it, to better cope with their texts and their day-to-day assignments. Similarly, teachers would be experiencing a worthwhile program of professional growth. This beginning

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may help ensure that all or most students t the secondary level have more possibility for continued reading achievement because some intervention is taking place.

The content reading emphasis may fall short in challenging the top readers enough or in helping the most disabled readers overcome the burden of comprehending texts that are significantly above their level. However, instead of each rural district attempting to have provisions for accelerated students and remedial reading students, they might want to work in cooperative units (several rural districts together) to try to secure those types of programs. These components can be phased into operation after the content reading staff-development effort is completed. If cooperative units are operable, then specialized reading personnel should be hired whenever possible. If cooperative units do not exist in your area, then it may be necessary for each district to have a generalist available and to run a basic skills lab (reading, math, and writing) for remedial and accelerated students. Admittedly, such a generalist could be difficult to locate.

The key point to keep in mind is that at the present time there is not a lot of planned program development in reading at the secondary level. The NAEP data would tend to support the need for such programs, but the situation may be especially difficult to handle in the rural schools because of the reasons previously stated. Therefore, a content area reading staff-development program is a significant beginning and in many cases it represents a healthy linkage between the public schools and the university. It would be unwise, however, to believe that content reading would represent a total solution to the problem and it would be unwise to think that such a program would adequately meet the needs of the most remedial students or the most accelerated. The solution to that problem probably requires linkages between rural school districts to jointly hire the type of personnel needed and to purchase the needed materials. The situation cannot be ignored, though, if we want to attempt to reverse present trends.

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CURRICULUM DEVELOPMENT IN THE RURAL SCHOOL

by

Gerald D. Bailey

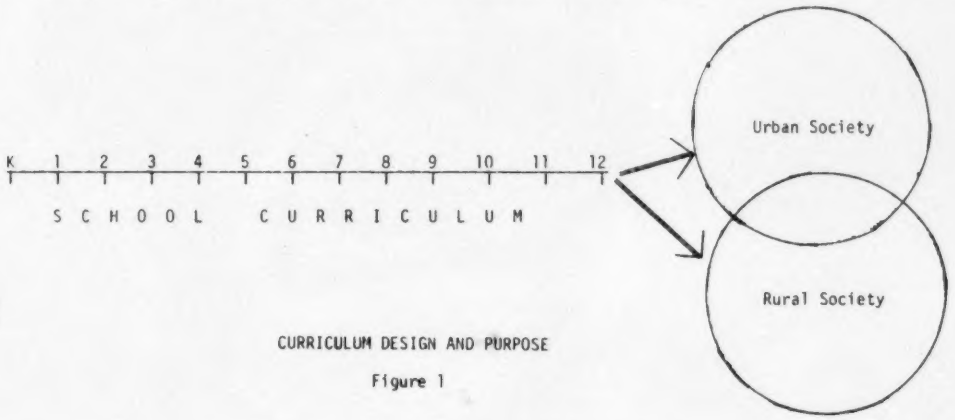
This is a chapter in a book soon to be published called Rural Education in America.

The need for an organized, dynamic curriculum exists in all school districts--both urban and rural. However, the very nature of rural schools and the problems faced by rural education suggest that the mechanisms for curriculum development may need to be different or at least redefined in order to allow rural schools to operate at their maximum potential.

Rural schools located all over this nation have one or more characteristics which set them apart from their urban counterparts. Nachtigal defines rural education as (1) those school districts with limited student population, (2) school districts with low student population density within a large land area and/or (3) those schools with a high degree of geographical isolation.[1] Rarely do rural schools exhibit all three major characteristics, but rural schools possessing one or more of these characteristics have a special need in the area of curriculum development. In short, curriculum development in the rural school can not function adequately as a micro-version of the curriculum structure found in urban schools.

Since the turn of the century, many curriculum authorities have either consciously or unconsciously advocated that rural school curriculums should be a small scale version of urban school curriculums. On the surface, this educational viewpoint has gone largely unquestioned since the school's major historical function has been to prepare students for entry into a highly urbanized, industrialized society. However, the logic of this educational thinking concerning rural schools becomes questionable when we closely examine rural education over the last twenty years. A number of rural students have always chosen to remain in the rural community where they attended school. Therefore, one of the major responsibilities of rural schools remains unchanged to prepare students for entry into a rural society. Secondly, rural communities find that a number of their graduating students enter into an urban society for a limited period of time but return to that same community or settle in a similar rural community. Thirdly, the United States has generally experienced a reverse migration pattern since the beginning of the 1970's--a migration from urban to rural settings.[2] This influx of urban students into a rural school has caused a general increase in student population in selected rural areas. The logic of assuming that the rural school's primary mission is to prepare students for an urban, industrialized society is not totally sound.

The purpose of a curriculum in any school should be designed so that it allows graduating students to function in either a rural or urban environment (See Figure 1).



CURRICULUM DESIGN AND PURPOSE

Figure 1

Regrettably, we see too many schools whose mission statement is oriented at producing students who can function in a highly urbanized, industrialized society. We have also observed social, political and economic trends over the years (i.e., school consolidation and rigid teacher certification standards) which have been aimed at making rural schools more urban in nature. The historic failure to recognize the unique and distinct nature of rural education continues to be a major problem in education today.

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1 Paul M. Nachtigal, Improving Rural Education in America: Past Efforts, Some Ideas for the Future, Paper presented at the Conference on Educational Change and Development in the Rural Community, Melborne, Australia, November 28-29, 1979.

2 Peggy Ross and Bernal L. Green, Impacts of the Rural Turnaround on Rural Education, (ERIC ED 168 759), pp. 1-49.

What Makes Rural School Districts Unique

Unfortunately, there is not an abundance of education-related research information which substantiates the unique nature of rural schools.[3] There are more research studies conducted by rural sociologists on rural communities. However, many of their studies have focused on the problems associated with the community while the school remains a secondary focus of interest. Obviously, more indepth studies such as as the Barker and Gump study must be encouraged and initiated.[4]

While there is not an overabundance of literature dealing with rural education as it related to curriculum development, there is a sufficient amount of information available which allows us to begin to understand the problems faced by rural school districts in rural communities. The information found in Figure 2 attempts to identify some of those positive and negative factors affecting people associated with rural school districts. The purpose of this positive-negative listing is not to exhaust all the identifiable characteristics of rural school districts but to provide some perception of the number of complex problems associated with rural education.

	Positive	Negative
ADMINISTRATION	1. Greater opportunity for teacher administrator contact. 2. Greater potential for exercising greater control over total school structure (centralized authority). 3. Greater potential for developing leadership among staff members.	1. Multiple responsibilities for both administrators and staff. 2. Limited time available for curriculum development activities. 3. Limited administration training designed for rural education.
TEACHER	1. Greater opportunity for teacher-student contact. 2. Greater access to learning environment where knowledge can be applied. 3. Greater potential for course flexibility. 4. Greater opportunity for individualized instruction.	1. Greater likelihood for multiple teaching responsibilities. 2. Greater likelihood for extracurricular responsibilities and assignments. 3. High probability of isolation from teaching peers. 4. High probability of social and geographic isolation. 5. High potential for greater community expectations. 6. Greater likelihood for distant travel to and from rural school location. 7. Greater likelihood for limited pay over a period of years. 8. Limited teacher training designed for rural education.
STUDENT	1. Significantly more opportunities for participating in extracurricular activities. 2. Greater opportunity for teacher-student contact. 3. Significantly more opportunities for interaction by students between grade levels. 4. Greater potential for individualized instruction. 5. Greater potential for participating in smaller classes.	1. Greater likelihood for distant travel to and from school 2. Greater potential for social-cultural isolation. 3. Greater potential for limited accessibility to multiple teacher with multiple teaching styles.
COMMUNITIES	1. Greater potential for positive school board--teacher--community relationships. 2. Greater potential for community involvement in school affairs.	1. Greater likelihood of an inability to attract teachers to rural settings. 2. Greater potential for teacher turnover. 3. Greater probability for limited financial operation base.

POSITIVE AND NEGATIVE FACTORS ASSOCIATED WITH RURAL SCHOOL DISTRICTS[5]

Figure 2

[5] These positive and negative factors were gleaned from over sixty research and nonresearch articles written in the area of rural education.

Curriculum in the Rural School District

To analyze the type of curriculum needed in the rural school, a definition of curriculum is necessary. Doll defines curriculum as:

> . . . the formal and informal content and process by which learners gain knowledge and understanding, develop skills, and alter attitudes, appreciations and values under the a auspices of that school.[5]

Tyler suggested that "curriculum is all of the learning of students which is planned by and directed by the school to attain its educational goals."[6]

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[3] The ERIC/CRESS Publication on Rural Education, published in June 1979, cites only 26 listings. A review of the dissertation abstracts concerning rural educatiion from 1970 to 1980 shows less than thirty citations.

[4] Roger G. Barker and Paul V. Gump, Big School, Small School (Stanford, Calif.: Stanford Press, 1964).

[5] Ronald C. Doll, Curriculum Improvement, Decision Making and Process, 2nd ed. (Boston: Allyn and Bacon, Inc., 1970), p. 6.

[6] Ralph N. Tyler, The Curriculum Then and Now, Proc. of 1956 Conference on Testing, Problems (Princeton, New Jersey: Educational Testing Service, 1957), p. 79.

Saylor and Alexander defined curriculum as a "plan for providing sets of learning opportunities to achieve broad goals and related specific objectives for an identifiable population served by a single school center."[7]

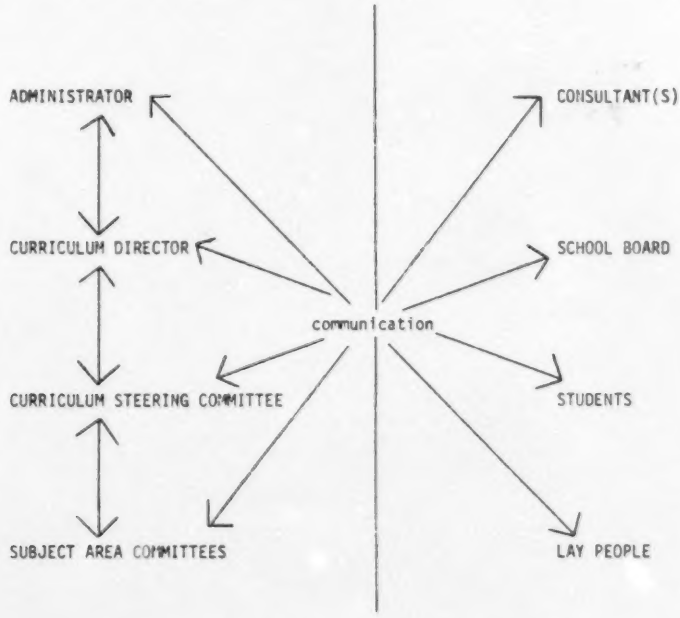
All of the above cited definitions of curriculum are applicable to the rural or urban school since the ultimate design and purpose of public education is to produce competent, functional citizens in society. However, there is a need for producing citizens who can function in either a rural or urban society. In sum, the uniqueness of rural schools suggests that the means and ends in curriculum development may need to be specifically designed for that rural school in order to provide for the needs of rural youth.

Curriculum Leadership and Responsibility in Rural Schools

Limited student population, limited staff size and multiple roles played by both administrators and teachers, are a few of the critical forces affecting the curriculum in the rural school. As a consequence, those leadership roles necessary for effective curriculum development need careful examination. If curriculum development is to be an efficient effective process, the lines of leadership and responsibility must be clearly identified and understood. Equally important, the lines of responsibility must be clearly visible to all the patrons of the school district. In this manner, people can understand (1) how a school curriculum functions, (2) what roles are played by those personnel who make up the Curriculum Leadership Hierarchy and (3) the curriculum leadership's relationship to the total community.

The Curriculum Leadership Hierarchy illustrated in Figure 3 depicts those major curriculum roles needed to be carried out in a rural school. There are eight major components found in the Curriculum Leadership Hierarchy: (1) administrator, (2) curriculum director, (3) curriculum steering committee, (4) curriculum subject area committee, (5) consultants, (6) school board, (7) students and (8) lay people.

The Curriculum Leadership Hierarchy illustrates (1) who is directly and indirectly involved in curriculum development, (2) the lines of responsibility between and among curriculum leaders and (3) those people involved and affected by curriculum development activities. The Curriculum Leadership Hierarchy is intended to depict the vital necessity of involvement by those people affected by the curriculum--from the superintendent to the patrons in the community. The administrator, curriculum director, curriculum steering committee and subject area committees have major leadership responsibilities for curriculum development while the consultant, school board, students and lay people play an important but less direct role in the curriculum processes.



CURRICULUM LEADERSHIP HIERARCHY IN THE RURAL SCHOOL

Figure 3

The Need for the Curriculum Leadership Hierarchy

The existence of a written document illustrating Curriculum Leadership Hierarchy is necessary even though many rural schools have one person who assumes more than one curriculum leadership role. For example, the superintendent or principal may also serve in the capacity as the curriculum director. In other rural school districts, we might see the curriculum director assuming the role of

7 J. Galen Saylor and William M. Alexander, Curriculum Planning for Schools (New York: Holt, Rinehart, Winston, 1974), p. 6.

a committee member on the curriculum steering committee. In similar fashion, a faculty member on the curriculum steering committee may be a representative on one of the subject area committees.

The Curriculum Leadership Hierarchy document should guide the school in total curriculum development process: planning, implementation and evaluation. Problems or questions concerning the curriculum can be solved by asking three basic questions:

1. Who is responsible for solving the curriculum problem?
2. Where should the information be obtained to answer the curriculum problem?
3. How is the curriculum problem best solved?

The Administrator's Role in Rural Curriculum Development

The role of the administrator is critical in the rural school curriculum structure. The entire school looks to the administrator for leadership. Directly or indirectly, the administrator establishes an environment which extends or restricts the kind and number of opportunities for participating in curriculum development activities. As a consequence, it is vitally important that the administrator have: (1) a complete understanding of curriculum leadership, (2) the capacity to share and delegate responsibilities and (3) the ability to exhibit leadership when monitoring the various steps of curriculum development.

The administrator in the rural school must be able to exhibit strong leadership without dominating or smothering other emerging leadership in the curriculum structure. The enthusiasm and excitement shown toward curriculum development by faculty is often in direct proportion to the enthusiasm and excitement shown by the administrator. Support of staff through released time, materials, finance and personal encouragement will significantly affect the efficiency and effectiveness of curriculum workers.

If the administrator perceives curriculum development as change--change in terms of positive student growth, then that administrator must be an agent which fosters and channels that change in an orderly and meaningful fashion. This orderly and meaningful change comes about when the administrator exercises the skill of shared decision making among those people affected by the curriculum. Curriculum development becomes most effective when those affected by the curriculum, share in the creation of that curriculum. Without shared decision making, curriculum development remains in the hands of the administrator or a small number of faculty members. The administrator's ability to orchestrate all other components in the cooperative decision making process is vitally important.

The Curriculum Director's Role in Rural Curriculum Development

The curriculum director is designated as the individual who is responsible for coordinating curriculum development activities. While this person is ultimately responsible to the administrator, the major leadership responsibilities call for implementing and monitoring the six major steps of curriculum development (See pages 18-19).

As pointed out earlier, the administrator of a rural school may often serve two roles--that of an administrator and curriculum director. In this situation, it is extremely important for the administrator to recognize this dual responsibility .

Major responsibilities assumed by the curriculum director include:

1. Scheduling those activities which deal with the basic elements of curriculum development.
2. Serving as curriculum resource person to teachers who need assistance related to specific subject matter areas.
3. Interacting with teachers on curriculum issues. The curriculum director should be responsible for alerting faculty to issues which address current problems in the curriculum.
4. Insuring that the curriculum is being implemented according to the basic curriculum plans developed by the school district.
5. Insuring that curriculum guides are being utilized in the total curriculum process. This responsibility includes regular evaluation activities aimed at determining the value of the curriculum guide and how the guide can be improved.
6. Implementing evaluation activities which determines curriculum effectiveness.
7. Securing the services of consultants when necessary to assist faculty in dealing with curriculum issues and problems.
8. Reporting directly and regularly to the administration about the progress being made in curriculum development activities.
9. Serving as liaison to parents, school board, lay people and students. The role of a curriculum liaison allows the curriculum director to identify issues and problems which can be acted upon.

In many respects, curriculum director must possess characteristics similar to the administrator. This person must be committed to shared decision making which allows faculty and others to provide input when decisions are made about the curriculum. The curriculum director must have the ability to (1) communicate well without dominating or alienating other curriculum workers, (2) stimulate others in the importance of curriculum work by both word and deed and (3) assume direct and indirect leadership roles as the curriculum situation demands.

If the administrator holds dual positions--administrator and curriculum director, then an equal amount of professional workload must be allocated to the functions of the curriculum director as well as administrator. This "juggling act" is extremely difficult for rural school administrators. However, the role of the curriculum director is as important as the role of administrator in the Curriculum Leadership Hierarchy.

The Curriculum Steering Committee's Role in Rural Curriculum Development

This K-12 committee is the elected or selected representatives of the total faculty and deals directly with curriculum issues. This group is usually responsible to the curriculum director who establishes the curriculum agenda.

The cooperation between the curriculum director and steering committee is extremely important. The combined leadership skills of the curriculum director and steering committee affect the total curriculum structure of the school district. Responsibilities and tasks of the curriculum steering committee are jointly determined by the curriculum director and committee members. They include the following:

1. Participating and guiding faculty in planning the basic components of the curriculum (i.e., The Goal-Objective Hierarchy, see pages 19-21).
2. Collecting information which evaluates how well the curriculum is being implementing (i.e., The use of surveys which include teachers, students and parents).
3. Developing and implementing evaluation measures in cooperation with the curriculum director (i.e., Follow-up studies which measure how well goals are being achieved by the school).
4. Editing and writing documents which relate to the curriculum structure (i.e., curriculum guides).
5. Serving as a sounding board for faculty members who see curriculum issues that need to be addressed by the school district.
6. Determining steps which need to be initiated to improve the curriculum.

The structure of the steering committee is extremely important. The steering committee members should be composed of teachers representing the various grade levels found in the entire school district (K-12). In many instances, we see rural schools with two steering committees: elementary and secondary. This kind of dual structure often hinders or prevents communication when trying to solve problems which affect the total school district. A single steering committee structure in the Curriculum Leadership Hierarchy is usually more desirable for rural schools.

The selection or election of the steering committee is also extremely important to the success of curriculum development. The committee should be composed of teachers who are willing to (1) accept responsibility, (2) demonstrate leadership skills among their peers and (3) exhibit human relation skills which include providing information and listening at critical points in the curriculum communication process. Obviously, the most important qualification is that to professional competence.

The Subject Area Committees' Role in Rural Curriculum Development

The subject area committees, by design, should have a close relationship with the steering committee. The subject area committees are the curriculum workers in the Curriculum Leadership Hierarchy. As was the case in the steering committee, K-12 faculty representation should be present on each subject committee. Subject area committee members are actively involved in determination of school goals, subject goals, scope and sequence of activities, and development of curriculum guides. Each subject committee's success at these tasks is vitally important to the total functioning of the other steps in school curriculum development.

As a consequence the curriculum director and steering committee must orient subject area committees to their tasks and identify the subject area committees' importance in the Curriculum Leadership Hierarchy. Two major understandings that must be perceived by the subject area committees: (1) curriculum change is a deliberate and systematic process and (2) broad-based or shared decision making is a major principle in curriculum development.

A major curriculum strategy which insures the effectiveness of subject area committees is the amount of working time made available to them. Regularly scheduled meetings with specific and detailed directions from the curriculum director and steering committee is imperative to insure the success of these committees. However, when these responsibilities are added on to the existing responsibilities of rural educators without adequate provision of time, the tasks of the subject area committees are likely to become burdensome.

The Role of Students in Rural Curriculum Development

Needless to say, the role of students in the Curriculum Leadership Hierarchy has been historically controversial. In theory, curriculum experts have regularly advocated student involvement in curriculum development. In practice, however, students involved in curriculum development has occurred with limited frequency. Irrespective of the problems associated with student participation in the curriculum, it is important in the development of rural schools.

The degree of student involvement should be monitored carefully. Under normal circumstances, students neither have the experience nor the knowledge to be the primary decision makers in the curriculum. However, students do possess an overwhelming amount of information which can be used in the total curriculum process. Student involvement should be regular and systematic. It is essential that students should not perceive their involvement or role in curriculum development as one of tokenism. The fear of student involvement often stems from the difficulty of channeling student input in a constructive manner. This need not be the case. Carefully channeled student input can lead to a great sense of curriculum involvement and appreciation by those people who are most directly affected by it.

The Role of Lay People in Rural Curriculum Development

Lay participation in curriculum development is paramount for rural schools. Some experts would contend that the potential for lay participation in the rural school's curriculum is greater than in the urban school. While this contention may not be true for all rural schools, the necessity for lay participation is undeniable. The degree of lay participation in the rural school, however, is heavily dependent on the financial social-economic make-up of the community.

Lay people's involvement in the curriculum, as in the case of student involvement, should be regular and systematic. Lay people should play an important role in determining the "what" of curriculum but not the "how" of curriculum. Their role should not be one of domination or control of the other curriculum committees. Equally important, the role of the lay people in the curriculum

process should not be one of tokenism. Their orientation to curriculum development and participation on the various subject committees can be invaluable in contributing to the establishment of a quality curriculum.

The Role of the Consultant in Rural Curriculum Development

The role of the consultant in rural school curriculums can range from one of nonexistence to complete curriculum domination. The curriculum consultant should provide assistance with the process of curriculum rather than producing the products found in the curriculum. Effective, efficient school curriculum leaders make prudent and regular use of consultants. Often the consultant can initiate activities which are difficult or impossible for the administrator or curriculum director. Essentially, the consultant can play two vital roles in the total Curriculum Leadership Hierarchy:

(1) providing orientation to faculty on curriculum development steps and procedures and
(2) orchestrating the school district activities involving one or more of the six major steps of curriculum.

Personal and professional qualities in consultants should be considered when involving them in the curriculum leadership. Curriculum consultants should possess the following competencies or qualities:

1. a philosophical commitment to curriculum as a long-term process rather than short term or single activity process.
2. credibility as a teacher and leader whose curriculum concerns are student-oriented.
3. human relation skills which permit a harmonious working relationship with the total staff rather than only a working relationship with administration or curriculum director.

The Role of the School Board in Rural Curriculum Development

School board participation in the curriculum development process is obviously essential in rural schools. Since this governing body makes many decisions (financial, hiring personnel, etc.) which will affect the school district their involvement and awareness as it relates to curriculum development may be as important or more important than any other component in the Curriculum Leadership Hierarchy. The administrator and curriculum director are directly responsible for keeping the school board informed about curriculum problems and issues that need to be addressed. School board members should not take a leadership role in the curriculum development process but they should be functioning, contributing members.

Overall, four things should occur from a comprehensive understanding of the Curriculum Leadership Hierarchy:

1. The school district can recognize the importance of specific leadership roles needed in curriculum development.
2. The school can recognize the lines of responsibility between and among the leaders in curriculum development.
3. Curriculum fragmentation or stagnation can be isolated at the point at which it is occurring in the curriculum hierarchy.
4. Improved communication and relationships between and among people involved in the curriculum can result from knowing how curriculum leaders can and should function.

The Six Steps of Planning and Implementing School Curriculum

Unfortunately, the mere identification of the Curriculum Leadership Hierarchy does not insure that effective curriculum will occur in the rural school district. Curriculum developers must insure that curriculum development is carried out in a logical, orderly process. To make the curriculum leadership roles operational, the six steps of planning and implementing school curriculum must be identified and implemented.

The six basic steps of curriculum development will assist the curriculum developers in recognizing what is needed in the curriculum and further delineates specific responsibilities in developing a comprehensive, systematic curriculum. The six basic steps of planning and implementing curriculum are:

Step 1: Establishing the Goal-Objective Hierarchy
(School goals, subject goals, competencies and instructional objectives)
Step 2: Determining Scope and Sequence
(Establishing what is to be taught and when those concepts are to be taught)
Step 3: Developing Curriculum Guides
Step 4: Implementing Curriculum Through Classroom Instruction
Step 5: Implementing Curriculum Evaluation Activities
Step 6: Implementing Curriculum Revisions Based on Evaluation Findings

Step One: Establishing the Goal-Objective Hierarchy

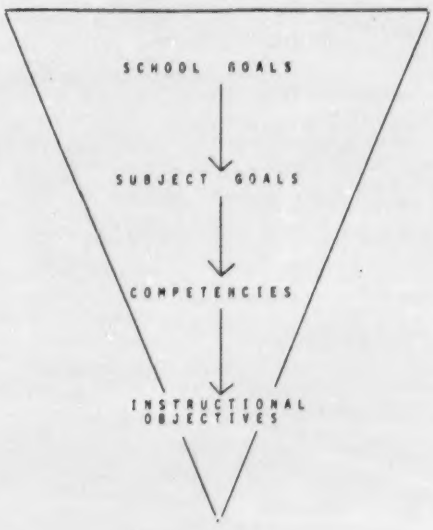
Any rural school's curriculum provides overall direction. The Goal-Objective Hierarchy is the master plan for establishing the direction for the entire school district. The development of this blueprint includes the involvement of the administration, faculty, students, parents, school board and lay people. Basically, the Goal-Objective Hierarchy should represent those outcomes expected of all students at the date of graduation. Thus, the Goal-Objective Hierarchy represents an explicit statement of those behaviors of attitudes possessed by each of the students upon entering society.

The establishment of the Goal-Objective Hierarchy is the first critical step in curriculum development. As stated earlier, it is especially important that those people affected by the curriculum have a direct voice in identifying student outcomes. This involvement is necessary since the purpose and direction of school must be valued by those carrying out the responsibilities of the curriculum. Without group participation in establishing school goals, personnel will never value the

purpose of the organization or appreciate the contributions by the total staff. The strategy of broad-based decision-making in the Goal-Objective Hierarchy allows the rural school to maintain and retain its identify and autonomy. The rural school district, in effect, has the responsibility to chart its own direction and a high degree of self-determination is a critically important concept in perpetuating rural education as we now know it.

The Goal-Objective Hierarchy is made up of four distinct elements. They are: school goals, subject goals, competencies and instructional objectives (see Figure 4).

The various elements of the Goal-Objective Hierarchy are depicted in an inverted pyramid fashion to illustrate that (1) the elements become more specific as they progress from top to bottom and (2) each element is derived from the preceding element. The Goal-Objective Hierarchy represents one of the most important steps in curriculum development since it identifies the sequential steps for curriculum leaders to follow in establishing student outcomes (see Figure 4).



GOAL OBJECTIVE HIERARCHY

Figure 4

One of the major advantages of the Goal-Objective Hierarchy is that it allows faculty members to perceive themselves as important people in an organization which has a commitment to definite student outcomes. Rural schools operating without the Goal-Objective Hierarchy often have teachers who feel isolated and alone. They sense they are part of an organization in which they have little or no control. The identification and use of the Goal-Objective Hierarchy can demonstrate the type of control that faculty members have on the curriculum.

School Goals: The First Element in the Goal-Objective Hierarchy

The upper element in the inverted pyramid is labeled school goals. The identification of school goals is a troublesome exercise for a number of rural schools. Many times, school goals are nonexistent; that is, schools have never participated in goals setting exercises. In other instances, school goals have been written several years ago by a handful of people. Irrespective of the circumstances, the absence of meaningful school goals is a feature too commonly found in rural school curriculum development.

School goals can be defined as student outcomes statements with broad direction or intent. They are comprehensive in nature and timeless. The term timeless means that the goals can be achieved at any time in the K-12 curriculum. This means that they are all encompassing statements of the content and experiences encountered by students as they move from one grade level to the next in the K-12 organization. They should be written in terms of student outcomes and not what the school will be doing for the students.[8]

1. The student will develop good character.
2. The student will develop a desire for learning now and in the future.
3. The student will develop a feeling of self worth and dignity.
4. The student will develop the ability to use leisure time effectively.

The actual development of school goals in the rural school district may be accomplished in several different ways. One major method is the selection and use of goals developed by educational

[8] This is an essential distinction since many historical goals are written in terms of what the school will do for the students. School goals, as described here, are statements of what the student will be able to demonstrate at some point in the K-12 continuum, not what the school will do for the student.

organizations such as Phi Delta Kappa. The Phi Delta Kappa materials[9] are an excellent source of school goals which can be used by school districts. The major drawback about the Phi Delta Kappa materials is that they were developed largely in urban school districts. The rural school district may want to avoid adopting school goals which were largely generated for use in urban school districts.

If established goals such as the Phi Delta Kappa materials prove to be unacceptable or unusable, the technique of organized brainstorming becomes a viable approach to school goal identification. Through directed exercises by the curriculum director or steering committee, essential school goals can be identified by the entire school district.

The case study method is a potential technique which could be employed by the school district to establish school goals. In this strategy, personnel in the school district collectively identify problems or situations existing within the school. The problem or situation which needs an immediate solution is studied and data is collected surrounding each problem; a school goal is then generated which attempts to solve the problem.

One of the most common methods used in establishing school goals is the borrowing of established school goals from other school districts. This practice is highly acceptable, provided that both schools have similar social and economic characteristics.

Subject Goals: The Second Element in the Goal-Objective Hierarchy

The second element found in the inverted pyramid is subject goals. It is important to point out that the total school district is not responsible or involved in the establishment of subject goals as was indicated in the establishment of school goals. Only those K-12 teachers responsible for teaching the various disciplines in the classroom are involved in writing subject goals.

Subject goals can be defined as broad statements of student outcome related to specific subject matter taught in the curriculum. The purpose of establishing subject goals is to allow teachers of the different subject areas to specify how they are going to fulfill the school goals. Subject goals are broad in nature and are timeless. The term timeless means that the subject goals can be accomplished at one or more grade levels in the K-12 curriculum. Subject goals are more specific than school goals, but less specific than the other two elements found in the Goal-Objective Hierarchy: competencies and instructional objectives.

The responsibility for developing subject goals belongs to the Subject Matter Committees, because these faculty are directly responsible for teaching subject matter content or concepts.

To be successful in identifying subject goals in the Goal-Objective Hierarchy one must remember that the subject goals relate to a specific subject taught within the curriculum. Examples of subject goals include:

Science: The student will practice safety measures designed for science areas in the school.
Social Studies: The student will understand and appreciate the basic freedom of democracy.
Mathematics: The student will develop skills in thinking, reasoning and proceed logically with mathematical concepts.

As the previous examples illustrate, the subject goals relate to those subject matters taught in the curriculum. A comprehensive listing of subject goals should exist for each of the subject matter disciplines. Subject goals might well be developed for the following disciplines found in the curriculum:

Science
Language Arts
Mathematics
Social Studies
Art
Business Education
Foreign Language
Vocational Education
Music
Special Education
Career Education

The involvement of the subject area committees in identifying subject goals is extremely important since each teacher is affected and responsible for content taught in the curriculum. Since each subject goal is drawn from a larger school goal, each subject matter discipline is able to determine how it is achieving the larger school goal. The development and use of subject goals will also be of great assistance to the staff when scope and sequence charts are developed for the school district.

Competencies: The Third Element in the Goal-Objective Hierarchy

The inclusion of competencies in the Goal-Objective Hierarchy is a relatively new addition to the curriculum structure. The recent development of competency testing laws sweeping the nation has placed a tremendous emphasis on competency identification in the curriculum. While universal agreement has not been reached on the definition of a competency by curriculum experts, the need for including competencies in the Goal-Objective Hierarchy appears to be unquestionable.

Competencies are defined as specific student behavioral outcomes. Competencies identify a specific skill that the student will demonstrate within a given subject matter. In terms of specificity, they fall between subject goals and instructional objectives. They are more specific than a subject goal and less specific than an instructional objective. Examples of competencies include:

Mathematics: The student will be able to perform the four fundamental operations with whole numbers, common numbers, common fractions and decimal fractions.
Social Studies: The student will trace his/her ancestry on both maternal and paternal sides of the family.
Shop: The student will operate power tools in a safe manner.

The task of writing competencies is extremely important to rural school districts in light of the competency testing laws being passed and/or considered in the various states. Those rural schools

9 Educational Goals and Objectives, A Model Program for Community and Professional Involvement, by Commission on Educational Planning (Bloomington, Indiana: Phi Delta Kappa, n.d.).

unfamiliar or unable to establish competencies will have difficulty in voicing concerns about the law being considered or passed in their state. Their ability to understand and respond to these pressures will ultimately affect their curriculum self-determination.

Instructional Objectives: The Fourth Element in the Goal-Objective Hierarchy

Instructional objectives are the last element found in the inverted pyramid representing the Goal-Objective Hierarchy. Instructional objectives stand in contrast to the other three goal-objective elements since they are very specific in nature. Instructional objectives are defined as exact behaviors or attitudes that students will demonstrate in the classroom on a day-to-day or weekly basis.

Each instructional objective should have three elements: conditions, type of activity and criterion. The elements are defined as follows:

1. Condition: The circumstances or materials used when the instructional outcome is demonstrated.
2. Type of Activity: The nature of the behavior or the attitude which the student is expected to demonstrate.
3. Criterion or Criteria: The standard or measure which assesses how well the behavior or attitude is demonstrated.

Equally important, instructional objectives are written in three domains: (1) cognitive, (2) affective and (3) psychomotor. The cognitive domain deals with knowledge or content. The affective domain deals with feeling and emotions. The psychomotor domain deals with physical skills. The curriculum should represent a balance of all three domains since they show a concern for the total child.

It is important to remember (1) that the responsibility for writing instructional objectives lies in the hands of the individual classroom teacher, and (2) that instructional objectives identify exactly how the school goals, subject goals and competencies are being carried out. Illustrations of instructional objectives include:

Language Arts - 12th grade: After discussing and analyzing elements of creative writing, the student will use topic sentences at the beginning, middle and end of a paragraph. A minimum of one topic sentence will be written for every paragraph.

Mathematics - 3rd grade: In a money exchange role playing exercise, the student will make the correct change for any item selected for purchase. No purchase will be greater than five dollars in value.

Social Studies - Kindergarten: After viewing the television segment for Captain Kangaroo, the student will be able to identify at least two consequences suffered by Mr. Greenjeans when failing to fulfill personal household duties.

The illustration in Figure 5 depicts the various levels found in the Goal-Objective Hierarchy. Each statement is derived from the statement preceding it.

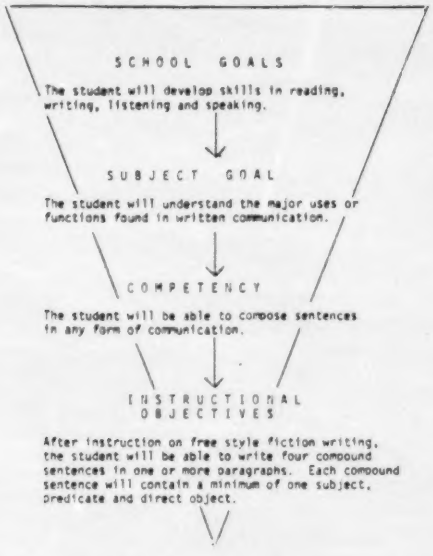

SCHOOL GOALS
The student will develop skills in reading, writing, listening and speaking.
SUBJECT GOAL
The student will understand the major uses or functions found in written communication.
COMPETENCY
The student will be able to compose sentences in any form of communication.
INSTRUCTIONAL OBJECTIVES
After instruction on free style fiction writing, the student will be able to write four compound sentences in one or more paragraphs. Each compound sentence will contain a minimum of one subject, predicate and direct object.

ILLUSTRATION OF THE GOAL-OBJECTIVE HIERARCHY USING LANGUAGE ARTS

Figure 5

A second example illustrating the development of the Goal-Objective Hierarchy is found in Figure 6. In this example, social studies is the subject matter used to show how subject goals, competencies and instructional objectives can be developed from the same broad school goal found in Figure 5.

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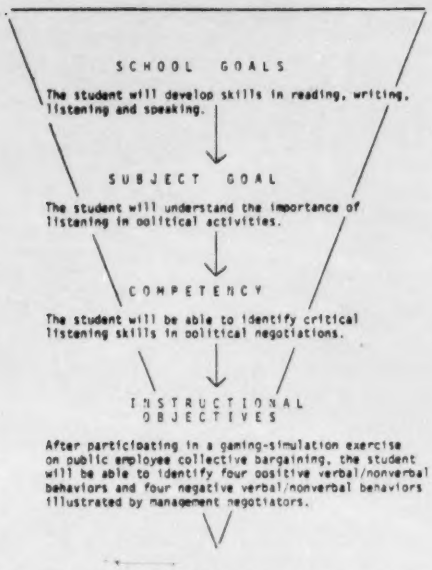
SCHOOL GOALS
The student will develop skills in reading, writing, listening and speaking.
SUBJECT GOAL
The student will understand the importance of listening in political activities.
COMPETENCY
The student will be able to identify critical listening skills in political negotiations.
INSTRUCTIONAL OBJECTIVES
After participating in a gaming-simulation exercise on public employee collective bargaining, the student will be able to identify four positive verbal/nonverbal behaviors and four negative verbal/nonverbal behaviors illustrated by management negotiators.

ILLUSTRATION OF THE GOAL-OBJECTIVE HIERARCHY USING SOCIAL STUDIES

Figure 6

While the Goal-Objective Hierarchy is only the first step in the six steps found in the School Curriculum Model, it should be considered one of the most important steps. There are several advantages for the rural school who uses the Goal-Objective Hierarchy:

1. Development of the curriculum can become systematic since all personnel recognize the purpose and direction of the school. The staff and school district recognizes the collective responsibility for facilitating the attainment of projected student outcomes.
2. The relationship between the purpose and direction of the school and the individual teacher can be more easily identified. The teacher can understand how individual instructional responsibilities relate to the total design and purpose of the school.
3. Monetary allotments to departments or subject areas can be more readily made on the basis of existing school needs to accomplish goals rather than who or what subject area can plead the best case for funds.
4. The selection of school curriculum textbooks and related materials can be more easily made on the basis of how well the print and nonprint materials will assist the school in accomplishing established goals.
5. The development of staff development (inservice) activities can be directly based on the established needs expected by the student outcomes found in the Goal-Objective Hierarchy.
6. The nature and design of the physical facilities can be determined by using the Goal-Objective. Development of physical facilities should be based on how well it will facilitate the achievement of established goals rather than developing a curriculum which fits existing physical facilities.[10]
7. The hiring of new faculty members can be based on the needs delineated in the Goal-Objective Hierarchy. Any consideration of new faculty should be based on how well that potential faculty member will assist in achieving the established school Goal-Objective Hierarchy.
8. The established Goal-Objective Hierarchy can assist the school district in avoiding serious problems of unplanned overlap and content voids.
9. The Goal-Objective Hierarchy can provide the school district with a frame of reference which they are able to use to document their accomplishments.

The identification and use of the Goal-Objective Hierarchy takes on special significance for the rural school since they can use standards for judging their accomplishments by the quality of the product (student) as opposed to being judged on the size of the school or limited number of students graduating from that school.

Step Two: Determining Scope and Sequence

Scope and sequence is a written plan for specifying what is to be taught (scope) and when that content/concept is to be taught (sequence). The purpose of developing a scope and sequence document is to allow the school district to become systematic in identifying, specifically, what things should be offered in the curriculum as well as the order of these concepts.

Activities involving the development of scope and sequence charts are usually directed by the curriculum director in the school district and these written plans may or may not be included in the school district curriculum guide.

One of the major arguments used by rural school districts who do not use scope and sequence charts is that they make for a rigid curriculum. In other words, once subject matter concepts and

10 Gerald D. Bailey, "Relating Curriculum to Facility Planning," Educational Considerations, (Winter 1976), pp. 14-18.

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sequence of those concepts are spelled out, the curriculum becomes inflexible or permits little creativity. Other rural school districts advocating the use of scope and sequence charts argue that it is imperative to be able to identify what is being taught and when it is offered in the K-12 continuum. It is only when the scope and sequence document is identified and used that planned learning can occur throughout the total curriculum. While it may be impossible to lay this argument to rest, scope and sequence does offer some substantial advantages to curriculum developers in the rural school district. These include:

1. Duplication of taught concepts can be eliminated through a systematic development and use of scope and sequence charts. Planned concept overlap becomes a positive outcome of scope and sequence and unplanned overlap can be eliminated. Determination of those concepts that need to be repeated or reemphasized can lead to greater student learning and satisfaction as they progress from one grade to the next.
2. The mere identification of what concepts are taught and when they are taught can provide a wealth of information to other teachers in the school district. This process allows coordinated utilization of teaching print and nonprint materials that would be impossible without the scope and sequence document.

Usually, scope involves a delineation of those subjects taught in the curriculum including language arts, social studies, mathematics, industrial arts, science, etc. While specific formats of scope and sequence charts vary a great deal, they usually depict the specific concepts taught within a given subject matter area. In Figure 7, we see a scope and sequence chart for reading library and study skills found in language arts. The listing of concepts denotes those areas which receive greatest emphasis while the mark at each grade level signifies when the concept is introduced or reintroduced in the curriculum.

Another example of a scope and sequence chart can show the school goals and when they are being emphasized in the different subject matters for the entire school. The illustration in Figure 8 includes a partial listing of the school goals. The number of each subject area denotes the grade level where the school goal(s) is being addressed.

	Language Arts	Art	Math	Science	Social Studies
1. Citizenship	1 2 3 4 5			4	1 7 9 12
2. Creativity	1 2 4	7 9	4 8	2 4 6 8	3 5 7 11
3. Social Skills	K 1		6	8	10 12
4. Self-Reliance	K 3 4 5	6 10	7 8	9 11	9 12
5. ----------					
6. ----------					

SCOPE AND SEQUENCE CHART USING SCHOOL GOALS

Figure 8

The Four Tests for Determining Scope

In developing the scope of curriculum, four different tests need to be applied to determine how useful these concepts are in the curriculum:

1. Does scope meet the test of time? Scope is only valuable when the concepts being taught are deemed necessary or critical to student competence. In short, they are time proven. Thus, the question must be posed: Has the concept been documented as essential to student success?
2. Is the content or concept useful vocationally? If certain learning experiences will assist the students in the future as it relates to a chosen field of work, then the content can be considered to be worthwhile in the curriculum.
3. Is the concept useful culturally? If the learning experience provided in the curriculum is beneficial to the student in understanding or contributing to society, then scope meets the third test. While some concepts may be more abstract than others, their inclusion in the scope is equally important.
4. Does it fulfill an immediate or future student need? This is a critical dimension of scope. If teachers can not determine the current value or future relevance of the concept, then the value of the concept will not be apparent to the student. Students should be able to value what they are learning at the present time as well as value it ten or twenty years from today. Relevance must be determined for each concept found in the scope.

The Four Tests for Determining Sequence

In developing the sequence in the curriculum, four different tests also need to be applied:

1. At what grade level is the concept best taught? If certain student skills are needed at a given point in the curriculum, then the concept can be offered at the grade level where the skill(s) is needed. For example, if typing skills are needed at the seventh grade level, then that might be the logical place in the curriculum to offer typing.

2. What needs exist for the student in the curriculum? One of the most reliable measures for determining needs in the curriculum is student testing. Standardized tests for diagnostic purposes provide an excellent method for determination of sequence. Student strengths and weaknesses can be identified and used in determining when certain concepts should be introduced or ordered in the curriculum.

3. When is the concept most logically taught? A determination when concepts are best taught can be found within the discipline itself. Subject matter organization is often based on simple-to-complex understanding. Basic concepts can become the foundation or the building blocks upon which other more complex concepts are taught. One example to illustrate this concept can be found in social studies where the discipline is often taught according to the students' expanding knowledge of their environment: home--school--city--state--national and international. The students' increasing awareness of the environment becomes a method of sequencing the content/concepts taught in that discipline.

4. What does research say about the sequencing of content? Determination of when subject matter concepts should be taught must also include a careful review of what research evidence exists. The outstanding work of Piaget, Bloom and Bruner as well as other researchers can be invaluable in determining the sequence of concepts in the curriculum.

Step Three: Developing Curriculum Guides

The first two steps of curriculum development involving the establishment of the Goal-Objective Hierarchy and the identification of scope and sequence are critically important. However, the development of curriculum guides (step three) is essentially the embodiment of the work done in the first two steps. Curriculum guides are developed for the teaching faculty who carry out the day-to-day operation of the curriculum.

The ebb and flow of curriculum concerns is probably best illustrated in the cycle of favor and disfavor that has befallen curriculum guides over the years. Historically, as well as at the current time, the rural school district appears to have a definite need for curriculum guides. In many rural schools, the elementary teacher has the responsibility of teaching four or more subjects, within two or more grade levels. Likewise, the rural secondary teacher may be responsible for two or three subjects at more than one grade level. The demand for breadth and depth placed on the teacher is very great. These content and process demands would seem to necessitate the need for a document which would be used to guide teachers in determining: (1) concepts to be taught, (2) when those concepts should be taught, (3) possible methodologies used to teach the concept and (4) those print and non-print resources available to teach these concepts in the curriculum.

Not all rural schools will see the potential value of curriculum guides. For some schools the development of curriculum guides is a costly financial venture as well as a time consuming activity. However, curriculum guides can be the most important feature of the total curriculum. For this reason, it is imperative that the rural school carefully consider three basic questions about curriculum guides:

1. What is the intended purpose of the curriculum guides?
2. What type of guide is needed?
3. How will the guide will be used by the school?

What is the purpose of the curriculum guide?

One of the most important steps in the development of curriculum guides is to determine the purpose of the curriculum guide. Curriculum guides can be developed so that the total curriculum is graphically displayed in one written document and is used principally by teachers. A second type of curriculum guide can be used as a clarifying document (i.e., What is our mission?). This type of guide is used by administrators and teachers and shared with parents, students, school board and lay people. The curriculum guide may also be created to serve both purposes.

Unless teachers value the purpose of the guide and value the importance of participating in planning and developing a curriculum guide, the document will never be used as it was intended. Additional specific purposes may need to be considered by curriculum developers before engaging in curriculum guide activities. Some of these purposes include:

1. To remove haze or uncertainty found in the curriculum.
2. To use for planning and implementing scope and sequence.
3. To use for coordinating efforts within or among departments or between and among attendance centers.
4. To use as a basis of selecting, planning and evaluating curriculum texts and materials.
5. To use as a technique for selecting, improving and evaluating instructional strategies.

What type of curriculum guide is needed?

It is difficult to prescribe one format which will meet all needs for the rural school. The type of curriculum guide is dependent on the purpose of the guide. With this in mind, the following elements should be considered.:

Foreword: This section is a narrative which indicates the purpose of the curriculum guide and how the guide should be used by teacher and administration.

School Philosophy or Goals: This section identified the school district's purpose and aims in its curriculum. The narrative often communicates the ultimate design and direction of the school. The use of the school goals (see Goal-Objective Hierarchy) in this section is sometimes included as well as the Sequential ordering of each goal according to priority in the school curriculum.

Teaching Methodologies: A section of the curriculum guide may include a description of teaching methodologies used by the teachers in all grade levels. This section includes descriptions of various methodologies such as inquiry, small group, lecture, instructional modules, and contracting as well as other methods employed. The narrative would enable the reader and user to determine what kind of means were being employed to reach the previously identified student outcomes in the curriculum guide.

Learning Styles: A number of curriculum guides provide an overview of those learning styles commonly observed in students by the teachers. An explanation of how the staff is trying to meet different student learning styles can be helpful to the reader and user of the document.

Content or Concept Outlines: By far, the most common feature of curriculum guides is an outline of content of concepts being taught in the different subject matters. Too often, however, this is the only element found in curriculum guides. The inclusion of this section in the curriculum guide is important because it represents a more detailed explanation of the scope and sequence of all subject matters taught in the curriculum. The articulation of content or concepts from K-12 is illustrated in these content or concept outlines.

Media: Print and Nonprint: A major section of the curriculum guide can include a series of resources materials currently being used in the school district including print and nonprint materials. This section becomes invaluable for curriculum leaders in determining not only what materials are available but also the value of these materials in the various subject matter areas.

Community Resources: Many school districts are located in a community with a virtual storehouse of information that can be used in the various subject matters. Resource speakers, materials found in the community, and locations of interest can be catalogued in the curriculum guide.

Evaluation Procedures: While this element is not as common as other elements in the curriculum guides, specific activities involving how the curriculum guide will be evaluated can be an important inclusion. Procedures for updating and revising the guide can be extremely helpful in preventing the curriculum from falling into disuse.

Instructional Objectives: Instructional objectives are not often found in curriculum guides since they are developed by the individual teachers. The specificity of instructional objectives and the sheer number of instructional objectives normally prohibits their inclusion in the curriculum guide. While the identification of instructional objectives is a necessary step for the teacher in the Goal-Objective Hierarchy, the identification and inclusion of instructional objectives in the curriculum guide need not be viewed as absolutely essential. The responsibility is probably best left to the individual teacher and logically integrated into daily or weekly lesson plans.

How will the curriculum guides be used?

Hopefully, the guide will be developed with the intention that it will be used on a daily or weekly basis. Selection of concepts, methods and materials should be an on-going process in curriculum development. However, one of the fundamental reasons for use or nonuse of curriculum guides often lies in the curriculum guide format. The format used for organizing the guide should be one that promotes and encourages the use of the curriculum guide. Provision of typewritten curriculum guides which allow adequate margin space permitting the teacher to react with personal notes, reactions, and suggestions is extremely helpful. This technique will encourage daily and weekly use of the guide by the teacher.

Second, the curriculum director and steering committee should schedule regular meetings to discuss adequacies and inadequacies of the curriculum guide. Their regular scheduled evaluation process will usually promote greater use of the curriculum guide.

Third, it is helpful if the curriculum guide is bound in a loose leaf fashion. This will allow for the addition and deletion of materials on a regular basis throughout the year.

Unfortunately, rural school districts are notorious for allowing their curriculum guides to fall into disuse. Those rural school districts choosing to produce curriculum guides should be aware of reasons which contribute to the disuse syndrome:

1. The curriculum guides were developed with little or no input from the intended users of the guide. As a consequence, the direct involvement of the subject matter committees in the development of curriculum guides is extremely important.
2. The curriculum guide materials from other school districts were used instead of developing materials specifically for the users of the guide. The very nature of materials, goals, and resources differ significantly from one school district to another. Hence, the relevance and usability of materials for one district may be quite different from another school district.
3. The development of curriculum guides included the identification of irrelevant, disorganized or impractical materials. The mere existence of guides does not insure their use. They must be designed by the teacher for actual use. The amount of time, energy and consideration given to guide content will weigh heavily upon whether the curriculum guide will be used.
4. The curriculum guides were built around texts in specific subject matters. No single text or series of texts can possibly meet all the needs of subject matters found in the school district. The curriculum guide materials must be organized around the goals established for the school district.
5. Curriculum guides which were structured or designed by consultant without involvement by the staff. Curriculum guides should be built by the people who are going to use the guide rather than by a consultant. The individual teachers should be responsible for identifying resources, materials and experiences appropriate for the learners in that school. Consultants can play a vital role in assisting the faculty but should not be given the authority to create the curriculum guide.
6. The curriculum guides were written for only one segment of the K-12 curriculum. Curriculum guides should be viewed as a K-12 endeavor. Too often curriculum guides are written for only one portion of the curriculum--either secondary or elementary. This does not mean that curriculum guides are ill-designed or inappropriate when grouped within the total curriculum such as K-4, 5-8 or 9-12. However, careful consideration should be given to the coordination between and among these individual curriculum guides. Without a total view of the K-12 spectrum, the curriculum can remain fragmented and disjointed.

Step Four: Implementing the Curriculum Through Classroom Interaction

The day-to-day teacher-student functioning in the rural classroom is where the actual implementation of the curriculum is carried out. Therefore, it is important to be able to trace the teaching-

learning activities found in classroom activities back to the school goals, subject goals and competencies established by that school district.

Each teacher has a responsibility to establish a plan for accomplishing the outcomes specified by that school district. The rural classroom teacher's responsibilities can be categorized into three major areas: planning, conducting and evaluating. The exact nature of these responsibilities include:

Planning: The identification of outcomes expected of each student as it relates to specific discipline. These activities usually include the use of formal/written or informal/unwritten lesson plans. The use of instructional objectives is a major feature of instructional planning.

Conducting: The selection of instructional methodologies and materials which are based on the student's learning style. It is at this point, that the actual implementation of curriculum occurs.

Evaluating: The selection of appropriate testing material which measure student outcomes. The teacher is responsible for testing the student to determine how well the student achieved the pre-determined school outcomes.

It is beyond the limits of this chapter to discuss the detailed classroom activities and responsibilities of the rural classroom teacher. However, it is important to recognize that the effectiveness of the curriculum is often best observed in the teaching-learning environment. In short, success or failure of curriculum implementation is in the day-to-day classroom activities which involves the teacher teaching and the student learning.

Step Five: Implementing Curriculum Evaluation Activities

Evaluating the curriculum is not an easy task in rural school districts. Factors of geographic isolation, limited staff and multiple responsibilities compound the problem. Available finances, resource personnel and isolation from external expert assistance all play a part in the decisions regarding the kind of curriculum evaluation necessary. However, if curriculum leaders implement curriculum procedures systematically, evaluation should become a natural outcome of curriculum development. Curriculum evaluation can be achieved in several different ways:

1. The employment of evaluation measures which assess the accomplishments of the Goal-Objective Hierarchy is one of the most basic methods in evaluating curriculum. How well has the Goal-Objective Hierarchy been achieved? To accomplish this task the curriculum leaders must assess the individual accomplishments at each level: school goals, subject goals, competencies and instructional objectives. This type of evaluation is conducted by use of surveys directed by the curriculum director, steering committee and subject area committees.

2. The use of standardized tests is another method which can be employed to evaluate the curriculum. The status ranking of students in terms of cognitive achievement are a measurement of the school districts effectiveness. However, it should be pointed out that standardized tests do not evaluate the total school curriculum. They only measure how well the students retain subject matter and this achievement score is merely a comparison to other students throughout the United States. Other kinds of test measurement of the total child may be necessary.

3. Written systematic feedback from students, parents and teachers can be utilized to evaluate the curriculum. Questionnaire surveys asking for pointed feedback can be used as a method of curriculum evaluation. Questionnaires and conferences need not be in written form exclusively. Oral feedback channeled in the form of open meetings and conferences can be used as effective evaluation measures of the curriculum.

4. Detailed studies of current students as well as graduated students can be a valuable method of curriculum evaluation. This type of curriculum evaluation data is different than obtaining follow-up demographic data. Detailed information can be obtained from students which assess how well the curriculum is assisting or has assisted students in their daily life.

5. One of the most effective forms of curriculum evaluation is the use of accreditation evaluations by national agencies. Accrediting team visitations can be a comprehensive approach in determining curriculum effectiveness. Essentially, the value of accreditation activities is the self-evaluation required as a preliminary activity prior to the team's visitation. Much of the curriculum evaluation is accomplished by the faculty and administration through self-evaluation measures.[11]

Step Six: Implementing Curriculum Revisions Based on Evaluation Findings

Curriculum revision must be considered a natural outcome of evaluation. However, it is important for the rural school district to remember that curriculum revision is the latter step in the total model of curriculum development rather than the first step. Secondly it is important to remember that curriculum revision(s) must be based on a solid foundation of data which suggests the need for revision.

Curriculum revision necessitates changes that affect those people directly associated with the curriculum. Acceptance of curriculum revision(s) is directly related to how well the school district values and understands the other five steps necessary in curriculum development. As a consequence, there are four major factors to keep in mind when initiating curriculum revisions:

1. Curriculum revision must be perceived by curriculum workers as a method leading to curriculum improvement. Curriculum development is the process of change. The curriculum is the very blueprint which equips students to become functional citizens in society. If this systematic development of student competency is to occur, all school personnel must recognize the necessity of change. Equally

11 J . Harvey Littrell and Gerald D. Bailey, "The Accreditation Process: Focusing on the Advantages," National Association of Secondary School Principal's Bulletin, September 1976, pp. 68-70.

important, they must recognize that curriculum change can not afford to be erratic; change occurs in an orderly fashion.

2. Curriculum revision will never be fully implemented without an appreciation and understanding of the various steps of curriculum development. Holding actions will inevitably be initiated by faculty who do not value or understand the steps of curriculum. Holding actions are observed when curriculum workers impede progress by refusing to participate or become involved in curriculum activities. Ultimately, the uncooperative behavior does not allow the curriculum change to occur.

3. Curriculum subversion is the alternative behavior to a holding action for those curriculum workers who do not understand and appreciate curriculum development. While subversion is quite close to a holding action behavior, subversion involves planned activities which block curriculum revision. These plans usually involve redirecting activities to make the curriculum process unproductive.

4. Curriculum revision will never occur without the fostering and developing of leadership in the curriculum ranks. Acceptance of curriculum revision requires strong leadership. This involves leaders who are willing to place value on the progress of the total curriculum. This requires curriculum workers who are self-directed and motivated. The time spent on cultivating leadership in curriculum workers ultimately leads to a much greater acceptance of change and productive change leads to curriculum improvement.

If rural schools are to maintain their identity and autonomy in 1980's they must have a complete working knowledge of curriculum development. This means knowing how to identify and implement a Curriculum Leadership Hierarchy which can employ the necessary steps in curriculum development. The very existence and improvement of rural schools depends on how well they can specify their mission to verify their accomplishments. Those rural school districts which are committed to improving their role in an ever increasing complex society will need to give attention to enhancing their curriculum structure. With insight, and careful curriculum planning, rural schools can assume a leadership role in American education. Without a comprehensive understanding of curriculum, rural schools are doomed to a fate of being subsumed under urban school domination.

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RURAL SCIENCE EDUCATION: BLUEPRINT FOR ALL?

by

D. A. Irion and J. L. Jinks

Much interest is currently being expressed concerning the scientific literacy of the American student. In addition to being the theme of the 1982 National Science Teachers Association Convention in Chicago, the scientific literacy issue is pervasive in the science education literature. Although the Reagan Administration has characterized science and math education in the U.S. as being in a "deplorable state," the current focus on problems in science training was prompted by studies initiated by the Carter administration. Indeed, current discussions and debates appear to be outgrowths of criticism leveled at science education which were established from studies initiated by Carter's Department of Education. One study in particular has drawn the attention of the general public and science educators alike, creating considerable dialogue. The report, entitled Science and Engineering Education for the 1980's and Beyond, was written by then Education Secretary Shirley Hufstedler and D. Langenberg. The authors predicted that "...the current trend toward virtual scientific and technological illiteracy unless reversed, means that important decisions involving science and technology will be made increasingly on the basis of ignorance and misunderstanding" (1980, p. IX). Others have agreed with the dire consequences of the situation. Frank Press, serving as Jimmy Carter's science advisor, now the President of the National Science Foundation, stated in 1979, "We would be stupid as a country to permit the continued erosion of science and math training in our primary and secondary schools" (Walsh and Walsh, 1980, p. 17). John Sawhill, while serving as Carter's Secretary of Energy stated, "A scientifically literate public is more urgently needed now than ever before" (Sawhill, 1979, p. 1). Paul DeHart Hurd, Professor Emeritus at Stanford University, to some the "dean" of science educators in this country, stated his concern in May of 1982, while addressing the National Academy of Sciences. He stated, "A majority of our high school graduates are...becoming scientifically and technologically illiterate" (Billings Gazette, 1982, p. 6-A).

Concern over the problem of scientific literacy in the U.S. appears to be well founded. First, research shows a decline in the proportion of high school students enrolled in science classes nationwide (Jones, 1981; Welch, 1979). This is occurring at a time in which science and technology are now, more than ever, an integral part of American life. Evidence of the American students' lack of commitment to science was noted recently in a talk given by Francis Collea, head of science education at California State University at Fullerton, "In my son's high school there are 1,800 students and only one physics section." Further, he points out, there is not one full-time physics teacher in any Orange County high school (Rapoport, 1981, p. 38).

Second, nationally normed test scores have shown a declining pattern for a decade or more. In general, scores on several nationally normed achievement tests for grades seven through twelve have declined measurably since the mid-1960's. Both the ACT and SAT tests were included in the data of this study (Jones, 1981). These statistics suggest a regrettable situation--declining knowledge of science in a dynamic, increasingly technological world.

Yet, a study by Martin in 1979 reports the results of the National Assessment of Educational Progress Test, a highly regarded achievement test designed to measure knowledge, skills and attitudes of American students at various ages, in several learning disciplines and from various demographic categories (Martin, 1979). Again, science scores nationally reveal declines. But the rural science student has not contributed to the decline. In ten of twelve possible instances of measurement, the rural science student scores have improved when compared to scores nationally (see Table 1).

SCIENCE PERFORMANCE 1969-1977

	1969-70	1972-73	Change	1972-73	1976-77	Change
Age 9						
Nation	61.0	59.8	-1.2	52.3	52.2	-0.1
Extreme Rural	-3.7	-2.6	1.0	-2.2	0.7	2.9
Low Metro	-15.2	-13.4	1.8	-12.0	-11.2	0.8
High Metro	8.1	-6.6	-1.5	5.7	7.3	1.6
Big City	-3.6	-3.5	0.1	-3.6	-4.6	-1.0
Fringes-around Big Cities	4.1	2.8	-1.3	2.5	4.2	1.7
Medium City	1.2	1.3	0.2	2.5	-0.7	-3.2
Smaller Places	-0.1	0.0	0.1	-0.1	0.1	0.2
Age 13						
Nation	60.2	58.5	-1.7	54.5	53.8	-0.7
Extreme Rural	-4.3	-2.0	2.3	-1.9	-0.4	1.6
Low Metro	-11.9	-13.1	-1.2	-10.7	-11.6	-0.8
High Metro	6.4	6.8	0.4	5.4	5.6	0.2
Big City	-3.5	-3.8	-0.3	-3.1	-3.2	-0.1
Fringes-around Big Cities	3.1	2.0	-1.1	1.5	2.5	1.0
Medium City	0.8	0.3	-0.5	0.1	-0.1	-0.2
Smaller Places	0.0	0.1	0.1	0.6	0.2	-0.4
Age 17						
Nation	45.2	42.5	-2.8	48.4	46.5	-1.9
Extreme Rural	-2.9	-1.4	1.6	-0.8	-0.3	0.5
Low Metro	-5.1	-7.3	-2.3	-8.1	-10.1	-2.1
High Metro	5.9	4.4	-1.5	4.7	4.4	-0.3
Big City	-1.8	-3.3	-1.5	-3.6	-4.4	-0.8
Fringes-around Big Cities	2.1	1.3	-0.8	1.1	2.5	1.4
Medium City	0.7	-0.1	-0.8	-0.1	0.2	0.3
Smaller Places	-0.3	0.5	1.0	0.8	0.4	-0.4

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These data from the National Assessment of Educational Progress Test are particularly interesting in light of certain writings which claim to find rural schools lacking in their ability to provide continuous, high quality education (Sher, 1977).

What is it that has enabled the rural student to maintain stability in science achievement when students in other demographic settings are not so successful? That which follows is an attempt to shed some light on certain factors which may have influenced this situation. In particular, research was directed toward teacher behaviors which might have had some positive impact on the rural science students' scores.

Considerable research has been reported which speaks to students' attitudes and perceptions of broad based teacher characteristics and behaviors. Studies such as those reported by Bybee and Chaloupka (1971) indicate that students view interpersonal relationships and enthusiasm as the most valued of all teacher behaviors. These views as to the importance of interpersonal relationships are shared by science educators and are included in the criteria for important teaching awards such as the Outstanding Biology Teacher Award. One reason for the relative success of the rural science students may be tied to the relationship of rural student to rural teacher. Numerous studies have shown that rural schools, because of their small size, promote greater interpersonal communication in student-student and teacher-student relationships (Barker, Gump, Campbell, Barker, Willems, Friesen, LeCompte and Mikesell, 1962). Often in the rural setting, the school becomes the focal point for community activity, "...allowing teachers, students and parents to develop close, supportive relationships" (Nobel, 1981, p. 13). The valued personal relationships fostered in rural schools should be emphasized where applicable, for this behavior may be a major factor in the relative success of the rural science student.

Besides relating to students, the science teacher must exhibit teaching behaviors which are effective. Such teaching methods considerations have taken a back seat to interpersonal relationships in terms of stated importance and also educational research. The science education literature is scant regarding the topic of student attitudes toward teaching behaviors, particularly when assessed from a variety of demographic situations. The extent of research in this area suggests that student attitudes toward science instructional processes and procedures vary greatly (Satiesteban, 1976). In the absence of appropriate existing research, we initiated our own.

By surveying students from a variety of demographic areas with populations considered rural and urban, according to definition by criteria described in the National Assessment of Educational Progress Exam, we sought to explore two issues: (1) Do student perceptions of desirable science teaching behaviors vary according to demographic considerations? (2) What teaching behaviors of a methodological nature are perceived to be desirable or undesirable by science students in general?

The results of this research led us to the following conclusions. First, a student's perception of desirable science teaching behaviors is not influenced by the size of the high school the student attends. The data also appear to show that the population characteristics of the area in which the school is located have no critical bearing on perceptions of desirable science teaching behaviors. Rural students appear to have much the same preferences regarding teaching methods as students from more urban areas.

Second, students do perceive certain teacher behaviors as indicative of quality science teaching and other teaching behaviors as indicative of less than quality science teaching. Again, as stated earlier, these preferences do not appear to vary from students in a rural setting to those in an urban setting. In particular, the students indicated that a teacher who is well prepared to conduct an activity-oriented science class, with hands-on laboratory experiences in a nearly natural setting (in the field or with natural objects in the classroom), will be perceived as a quality science teacher. On the other hand, a teacher who appears rigid, vocabulary oriented and inclined to require formal writing will be perceived as a teacher of low quality.

Though students may appear united in their view of quality science teaching methods, actual teaching strategies of science teachers may be quite dissimilar. Preferred teaching styles, financial limitations and logistical considerations are just a few reasons for divergent teaching strategies from one teacher to another. Yet, a study by Lawrenz (1976) suggests that a student's success in the classroom is influenced by the student's perception of the general classroom environment.

Relative success in the rural science classroom may be tied to the notion that students perceive their rural science classroom environment in a more favorable light than students from other demographic areas. Four of the six methodological behaviors identified by students as indicative of quality science teaching deal with laboratory, field trip, and activity oriented methods of science teaching. The rural teacher often has a unique opportunity to implement this type of instruction. First, class sizes tend to be smaller so that field trips may be more easily implemented. Fewer complications in class scheduling allow the teacher greater flexibility in timing field trips (Colton, 1981). Destination points may require minimal transportation in the rural setting, to the extent that students may be able to hike down to the river for a biology investigation or slip out to a nearby field to obtain soil for analysis. Science instructors from other demographic areas more often than not face difficult logistical barriers in producing activity oriented labs in a natural setting. In summary, it appears that the preferences of science students are rather in tune with the environmental conditions of the rural school, to the extent that this union may partially account for the stability and improvement of the rural science students' scores. Rural science teachers need to further exploit this positive advantage of the rural school condition.

The positive trends exhibited by rural science students are most likely a combination of factors mentioned thus far, but a mounting wave of writings suggest that the rural school in general is today, and will be in the future, more appropriately addressing the education of a new societal order. Toffler (The Third Wave, 1980), Schumacher (Small is Beautiful, 1973) and others have addressed the limitations of the "big is better" mentality. These authors contend that there are limits to size, limits to specialization and limits to centralization. These limitations are applied to many systems including educational systems. Toffler (1980) has demonstrated in The Third Wave, the onset of a new societal order based on a "demassified society." Nachtigal (1981) has noted that the characteristics of the rural school "...coincide fairly closely with those Toffler attributes to a demassified society, i.e., small size, a greater degree of interpersonal communication, minimal bureaucracy, and

reduced specialization" (p. 33). Nachtigal also suggests that specialization of instruction in schools has reached the point of diminishing returns and asks, "Is it not better to have teachers who understand the broad structure of their content areas than narrowly prepared technicians?" (p. 32)

In essence, it is quite possible, as the previously cited authors have suggested, that the rural school is more appropriately equipped to contend with the great changes in education brought about by the profound alteration of society--perhaps the rural science students' success is partially a result of that.

Whatever the reason for the success of the rural science student, the appropriate response should not be to dwell on the relatively infant success of this group of students. Rather, rural educators should attempt to exploit those behaviors identified as most effective in contributing to the rural science students' success, i.e., the close student-teacher relationships which are so important to students and, from a methodological perspective, the hands-on learning experiences in the natural setting. A relative anomaly in a sea of falling science achievement test scores, the rural school has found success in the science classroom.

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USING YOUR TESTING PROGRAM IN CURRICULUM DEVELOPMENT AND INSTRUCTIONAL IMPROVEMENT

by

Nancy J. Smith

To test or not to test is no longer the question faced by school systems; however, several important questions remain and deserve careful consideration. How much to test, what kind of tests to use, and what to do with the information are all important concerns. It is the latter issue which will be examined here. An important reason tests are given is to assess the effectiveness of the curriculum and instruction in a school system. It follows, then, that the testing program can have an important role in curriculum development and instructional improvement. Reviewing the following ten items can be helpful in determining whether a school system's testing program is used effectively in this role. A basic and critical assumption underlies this entire discussion. Testing is not an end in itself. Among other functions, testing may serve as a tool to be used by those concerned about the quality of the curriculum and instruction in their district. In essence, this means that a purpose of testing is to help educators help students learn.

The first two items demonstrate ways in which test results are not serving the role of helping with curriculum development or instructional improvement.

Item 1. **Student scores are put on cumulative folders and nothing is done with them by teachers or administrators; or, at least, people think that this is true!**

Sometimes these are hauled out to justify application for external funding of some kind and that may eventually result in improved curriculum and instruction. However, that return may not justify the expense in student learning time consumed or in money invested. Also damaging is the notion that often people, and especially teachers, think that nothing constructive is done with the results. This causes them to question the judgment of administrators responsible for the wasteful expenditure of resources and to suspect a lack of knowledge to use testing information purposefully.

Item 2. **Scores are reported to the public primarily as percentages of students scoring above or below national norms.**

In many ways, more costly than leaving test scores in the folders, is reporting them to the media. Education has earned itself a lot of bad press this way. Burn out and morale have become problems. All this cannot be blamed on reporting scores, but it creates frustration when educators know they are working hard and all they seem to get for it is low pay and bad publicity. There are other important reasons for avoiding the media which will be considered in relation to other issues and in terms of what to do, not just what not to do.

The remaining eight issues will be considered as ways in which a testing program may serve in the role of aiding in curriculum development and instructional improvement.

Item 3. **The goals and objectives of the instruction program have been matched to what the test(s) claim to measure.**

As one would expect, it has been found that students do better on tests that match the curriculum content (Walker and Schaffarzick, 1974). There are several implications of this finding. First, the school system's goals and objectives must be clearly defined and stated and be the product of the administration, the faculty and the community. Secondly, someone must be assigned the responsibility of performing the tasks of:

(a) examining the test manual to clarify what the test supposedly measures and evaluating the evidence given that those things are actually measured.

(b) comparing the school system's goals and objectives to what the test measures and how it measures those objectives. One aspect to consider is consistency between approach of the test and the curriculum. An example is not using a traditional test to measure innovative curriculum. Sometimes an outside opinion on the ability of the test to assess what it claims is helpful. At least one source available to the person responsible for considering this issue is Buros' 8th Yearbook of Mental Measurement. It is a series of test critiques prepared by authorities qualified to evaluate tests. A second source consists of publications of the professional organizations. For example, in the field of reading, one could consult Diagnostic and Criterion Referenced Reading Tests: Review and Evaluation or Reading Tests and Teachers.

Item 4. **The goals and objectives of the school system and what the tests measure are what is taught in the classroom.**

Consider the objectives found on the criterion referenced test (CRT) being used or developed in many states. The CRT will be used to determine how well students are achieving these objectives. Some questions need to be answered by school systems who want to get the most use from the CRT results. Who teaches which objectives? How much time is spent teaching the objectives? Is sufficient practice being provided in the materials available to teachers? How do you find out if what is being tested is being taught? To provide a systematic means of answering these questions, a chart can be compiled of all available information. The one below is one approach to organizing the information and pinpointing gaps or need areas.

Item 5. **Students possess test-taking skills to make the results meaningful or valid.**

The goal of testing is to learn if students have certain knowledge rather than whether they know how to take the test. The format in some standardized tests for assessing spelling illustrates this point. Students pick the word that is spelled correctly from four choices. Is this typical spelling

Matching Goals and Objectives to Classroom Instruction

Goal/Objective	Grade Level K	1	2	3	4	5	6	7	8	9	10	11	12
1. divide two common fractions					I/P	R/P	M/P						
2. reading to enjoy and appreciate literature	I	D	D	D	D	D	D	D	D	D	D	D	D

KEY

I - introduced
R - reteach
M - mastery
D - develop at more advanced level
P - practice provided in materials

test behavior? The results may only indicate that some students do not possess the test taking skill necessary to indicate their spelling skills. Therefore, teach test taking skills. Teachers should develop exercises like the test format for practice during the year. This practice should be emphasized two weeks before testing. Doing this is not teaching the test. It is teaching format and should yield more accurate test results. Why use the results if they are not valid?

Item 6. **Test results are used appropriately in making decisions about school programs.**

According to Aulls (1982) there are four questions administrators should answer in making appropriate administrative use of scores.

a. How does the average student at a given grade level compare to national or local norm scores?
b. How does the average student at the primary, intermediate, or secondary level at a given school compare to national or local test norms?
c. What changes have occurred in the mean global performance based on a comparison of pre and post instruction at each grade level?
d. What are the differences between the expected and obtained scores in various curriculum areas?

Answering these questions can lead to policy and decision making in the areas of curriculum and instruction. Is curriculum revision or perhaps updating indicated? Can instruction be improved through teacher in-service in areas of low student performance? Administrative initiative in curriculum and instruction represent constructive utilization of testing results.

Item 7. **Teachers know what to do and not to do with scores.**

Placing students in instructional materials according to standardized test scores is not an advisable practice. Standardized test are associated with frustration level performance. Appropriate placement will be in easier materials at the instructional level.

The kind of decisions which can be made about individual students based on scores depends on whether criterion referenced or norm referenced tests were administered. Bariman and Stevenson (1982) suggest teachers can make instructional decisions with norm referenced test data by comparing the current level of achievement and academic potential observing test taking ability and comparing classroom performance to test scores. Organizing information on a chart, such as the one below by Bariman and Stevenson, allows the teacher to teach an instructional decision.

Using Standardized Test Data

	*Test Score (Rdg.)	*Aptitude Score	Testing Ability	Classroom Performance	Inst. Dec.
Susan	53	55	Satisfactory	a. grade level materials b. acceptable progress	mainstream
Tom	40	55	Problems evident	a. grade level material b. progress	further testing needed

*Standard Scores

Aulls (1982) adds another acceptable instructional use for achievement scores. He suggests comparing performance on reading with math, spelling, etc. A wide difference of two or more stanines between subjects indicates an area of emphasis for a student's instructional program.

Teachers in agreement with the following eleven statements can effectively use criterion referenced test results.

a. I base my teaching on long term and daily instructional objectives.
b. I want to know what knowledge the class has or does not have about the content I teach.
c. I want to know what knowledge I should either directly teach, reinforce or not teach the class.
d. I want to know what knowledge each student has or does not have about the content I teach.
e. I want to know what knowledge I should either directly teach, reinforce or not teach individual students.
f. I want to know to what extent the instructional objectives I stressed were satisfactorily learned by the average student or by a particular group of students or by individual students.
g. I want to know the strengths and weaknesses of the instructional program at a particular grade level or segment of the program.
h. I want to know how to best organize students to optimize the amount of instructional time devoted to my goals and objectives.
i. I want to know that students receiving instruction based on my objectives perform significantly better than students who have not received the instruction.
j. I want to know which students need further assessment in order for me to plan appropriate instruction.
k. I want to know which students are ready for more advanced learning opportunities.

Item 8. **Test results are reported as a gauge of how well the goals and objectives are being achieved.**

This necessitates objectives being specified, clearly stated and made known to the community, which in turn may even help them to be achieved. This is a preferable alternative to reporting how many students are above or below the national norm, unless the school system's goals are stated in relation to the national norm. A reasonable practice is reporting the percent of students achieving the stated goals/objectives and plans for improving instruction or revising the curriculum to facilitate greater success, if the level of achievement of any goal or objectives is unacceptable.

Item 9. **Formative evaluation is emphasized as much as summative evaluation.**

Based on formative evaluation, the instructional program is adjusted by the teacher throughout the year to meet the changing needs of students. Based on summative evaluation, programs are changed to better achieve the school system's stated goals and objectives.

Item 10. **Learning is viewed as more than knowing a list of skills, and measurement of learning includes assessment of utilization of information and of attitudes, interests, progress and self-concept.**

Students are not computers to be programmed to feed back lists of correct answers, series of unrelated ideas, or the scope and sequence of skills from a set of materials. The risk of doing so is producing readers who do not like to read, passive learners who do not think, and data consumers who do not enjoy, appreciate or evaluate. For example, have a school system's goals been met if students have achieved the criterion referenced test objectives or scored above the national norm, but never check out library books or read newspapers? Additionally, do criterion or norm referenced tests assess all the school system's objectives? If not, are they being assessed and results reported? Do students' attitudes and interests influence the curriculum and instruction?

The results of testing programs consisting of tests matched to goals and objectives have the potential to supply valuable information for the tasks of curriculum development and instructional improvement. Long term, systematic, cooperative planning of the testing program and its uses by administration and faculty can significantly improve the quality and quantity of learning within a school system. Test results can help educators help students learn.

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AGENDA

MONDAY, NOVEMBER 15, 1982

8:00-8:30 a.m. Second Floor Concourse / K. S and U Rooms
Registration and Refreshments

8:30-9:30 a.m. Forum Hall
Introduction: Dr. Jordan Utsey, Dean, College of Education, Kansas State University and Dr. Duane Acker, President, Kansas State University
KEYNOTE PRESENTATION: D. Jean Bonsib, Acting Assistant Secretary for Elementary and Secondary Education, United States Department of Education, ENSURING EXCELLENCE IN EDUCATION FOR RURAL AMERICA: A FEDERAL PERSPECTIVE

9:[illegible]-9:40 a.m. K. S and U Rooms
9:40-10:40 a.m. Break and Refreshments

Option I Sunflower Room
Tort Liability and Negligence in Community Education Programs
Dr. Robert Shoop, College of Education, Kansas State University

Option II Cottonwood Room
Curriculum and Instruction
Dr. Douglas D. Christensen, Superintendent, Colby Unified School District #315, Colby, Kansas

Option III Big 8 Room
High School Attendance Policies in the State of Kansas
Dr. Alfred Wilson, College of Education, Kansas State University and Dr. Jerry D. Singer, Assistant Principal, Central High School, Salina, Kansas

Option IV Room 212
Looking Internally: One School System's Response to the Current Declining Enrollment Trend
Dr. Reba Rye, Department of Education /Psychology Research, Kentucky State University

Option V Room 213
Factors Which Influence Effective Utilization of Computers
Dr. Roxanne Krunch Russell, Department of Education /Psychology Research, Kentucky State University

10:45-11:45 a.m.
Option I
Sunflower Room
Rural Community Education
Paula Patton, Coordinator, Hesston Community Education, Hesston, Kansas

Option II Cottonwood Room
Are You Getting Your Money's Worth Out of Your Testing Program?
Dr. Nancy Smith, College of Education, Kansas State University

Option III Big 8 Room
Automated Learning, Individual Instruction and Computers in the Small School Classroom
Dr. O. L. Dorsey, Dean, School of Education, Southwest Texas State University and Jerry Burleson, Principal, Reagan County Elementary School, Big Lake, Texas

Option IV Room 212
A Secondary Reading Program for Rural Schools
Dr. Clyde Colwell, College of Education, Kansas State University

Option V Room 213
Planning Strategies for Dealing With Declining Enrollment
Dr. Thomas Moriarty, Department of Educational Administration, University of South Dakota

12:00-1:30 p.m. Main Ballroom
Luncheon Address: Senator Robert Dole of Kansas (tentative)

1:40-2:40 p.m.
Option I Sunflower Room
A Problem-Solving Process
Dr. Larry Hendrix, Area Specialist in Community Development, Kansas State University Cooperative Extension Service, Garden City, Kansas

Option II Cottonwood Room
Assuring Quality Teachers for Rural Areas
Leona Blum, Director for Affiliate and Member Services, National Council of Teachers of English

Option III Big 8 Room
Improving Rural School Effectiveness: Lessons From Research
Thomas Schultz, Rural Education Team Leader, National Institute of Education

Option IV Flint Hills Room
Strategic Management: How to Get Things Done (Part I)
Marci Rocchio, Kansas Community Education Association

Option V Room 212
Needs Assessment for Curriculum Design in Rural and Small Schools
Dr. John Horton, College of Education, Kansas State University and Dr. Gerald Bailey, College of Education, Kansas State University

Option VI Room 213
Who Does What in Rural Schools: Characteristics and Perceptions of Teachers, Administrators and School Board Members
Dr. Jeanette Morton, Department of Curriculum and Instruction, New Mexico State University; Dr. Lucia Amodeo, Director, Educational Research Center, New Mexico State University; and Dr. Jerald L. Reece, Department of Curriculum and Instruction, New Mexico State University

2:40-2:50 p.m. K. S and U Rooms
Break and Refreshments

2:50-3:50 p.m.
Option I Sunflower Room
Recruitment and Retention of Qualified Teachers
Dr. Douglas Herbster, Department of Secondary Education and Foundations, Montana State University

Option II Cottonwood Room
Classroom Evaluation Techniques in Rural Schools
Dr. Arlen Gullickson, Department of Educational Administration, University of South Dakota

Option III Big 8 Room
Providing Services to Exceptional Children in Small Rural Schools
Dr. Jack Cole, Department of Educational Specialties, New Mexico State University and Dr. Paul Wirth, Los Lunas Hospital and Training School, Los Lunas, Texas

Option IV Flint Hills Room
Strategic Management: How to Get Things Done (Part II)
Marci Rocchio, Kansas Community Education Association

Option V Room 212
Basic Skills Centers for Small High Schools
Dr. Laura Meeks, School of Education, Pittsburg State University

Option VI Room 213
Internships for Students Pursuing a Career in Rural Education
Dr. Russell Kachtner, College of Education, Texas A & M University

4:00-5:00 p.m. Forum Hall
GENERAL SESSION PRESENTATION: Dale Dennis, Assistant Commissioner of Financial Services, Kansas State Department of Education

5:00-6:30 p.m. Ramada Inn
Social Hour: Sponsored by School Specialty Supply, Salina, Kansas

6:45-9:45 p.m. Main Ballroom
BANQUET
Introduction: Dr. Jerry Horn, Associate Dean, College of Education, Kansas State University, and Carl Boyer, President, Kansas Community Education Association
Speaker: Mark Mayfield, Past President of Future Farmers of America
Outstanding Rural Administrator Awards Presentation
Kansas Community Education Association Awards Presentation

TUESDAY, NOVEMBER 16, 1982

8:00-8:30 a.m. Second Floor Concourse / K. S and U Rooms
Registration and Refreshments

8:30-9:30 a.m. Forum Hall
GENERAL SESSION PRESENTATION
Harold Blackburn, Assistant Commissioner of Educational Services, Kansas State Department of Education

9:35-10:35 a.m.
Option I Sunflower Room
Increasing the Effectiveness of Citizen Advisory Groups
Martha Nelson, State Supervisor for Community Education, Arkansas Department of Education

Option II Cottonwood Room
Curriculum Planning: A Step By Step Process
Dr. Weldon Zenger, Department of Education, Fort Hays State University and Dr. Sharon Zenger, Department of Education, Fort Hays State University

Option III Big 8 Room
A Cost Analysis Process for Rural Schools
Dr. William Sparkman, Department of Administration and Supervision, Texas Tech University

Option IV Room 212
Monitoring and Managing Implementation of New Programs: From Curriculum to Micro-Computers
Dr. Robert James, College of Education, Kansas State University

Option V Room 13
Analysis and Selection of Curricular Materials Through Staff Development
Dr. David Wallace, College of Education, Kansas State University

10:35-10:50 a.m. K. S and U Rooms
Break and Refreshments

10:50-11:50 a.m.
Option I Sunflower Room
Passage of a Referendum: An Alternative Way of Financing Community Education
Sondra Vodock, Director of Community Education, Derby, Kansas and Charlie Hubbard, Deputy Superintendent of Schools, Derby, Kansas

Option II Cottonwood Room
Getting Started: A Guide for Helping Inexperienced Teachers
Dr. Leo Schell, College of Education, Kansas State University and Dr. Paul Burden, College of Education, Kansas State University

Option III Big 8 Room
Effective Utilization of Microcomputers and Other Technology in Rural and Small Schools
Dr. Fred McCormick and Eileen McCormick, Educational Operations Concepts, St. Paul, Minnesota

Option IV Room 212
Monitoring Management Team Effectiveness
Dr. G. Kent Stewart, College of Education, Kansas State University

Option V Room 213
Improving Leadership for Better Groups and Communities
Dr. Leslie Frazier, Community Resource Planning, Cooperative Extension, Kansas State University

12:00-1:30 p.m. Main Ballroom
LUNCHEON ADDRESS: Walter Turner, Associate Executive Director, American Association of School Administrators

1:40-2:40 p.m.
Option I Sunflower Room
Kansas Community Education Association General Meeting

Option II Cottonwood Room
VRC Microcomputer Teaching Interview
Dr. Jacqueline Patterson, National Center for Small Schools, Texas Tech University

Option III Big 8 Room
English and Language Arts for Rural and Small Schools
Melvin Riggs, Education Program Specialist, Kansas State Department of Education

Option IV Room 212
Curriculum Development in Rural and Small Schools
Dr. Gerald Bailey, College of Education, Kansas State University

Option V Room 213
Teacher Education for Rural Schools
Dr. Alan G. Zeiler, Dean, Department of Education, Western Montana College

2:40-3:40
Option I Sunflower Room
Kansas Community Education Association General Meeting (continued)

Option II Cottonwood Room
Effectiveness of a Computer-Based Skills Building Program
Dr. Phyllis Tarrant, Director of Curriculum and Guidance, Ell-Saline Unified School District #307

Option III Big 8 Room
Community Development for Small Schools
Dr. James Albrecht, College of Education, Kansas State University

Option IV Flint Hills Room
Rural Science Education: Blueprint for All
Dr. Jerry Inaks, Department of Education, Eastern Montana College and David Irion, Science Teacher, Riverside Junior High School, Billings, Montana

Option V Room 212
Administrative Guidelines for Helping Teacher Classroom Discipline
Dr. Paul Burden, College of Education, Kansas State University

Option VI Room 213
Curriculum Development at Pretty Eagle School: Some Successes and Some Problems
Dr. Henry Worrest, Department Head, Secondary Education and Foundations, Montana State University

3:50-4:00 p.m. K. S and U Rooms
Break and Refreshments

4:00-5:00 p.m.
Option I Sunflower Room
Kansas Community Education Association Committee Meetings

Option II Cottonwood Room
Rural and Small School Students Are Motivated by Aerospace Education
Mary Ensrom, Aviation Education Specialist, Beech Aircraft Corporation and Dr. Floyd Price, College of Education, Kansas State University

Option III Big 8 Room
Strategies for Recruiting and Retaining Teachers in Rural and Small Schools During Shortage Periods
Dr. William Kurtz, Director, Small Schools Resource Center, Southwest Texas State University

Option IV Flint Hills Room
An Interrelated Service Delivery System in a Rural Setting
Greg Gaither, Director of Special Education, East Central Kansas Cooperative in Education, Baldwin City, Kansas

Option V Room 213
Sharing Learning Resources Across Districts
June Level, Media Specialist, Kansas State Department of Education

Note: All sessions, speakers and times are tentative and subject to change without prior notice.

Special Interest Program
Tentative Agenda

MONDAY, NOVEMBER 15, 1982

9:00 a.m. Welcome — Coffee & Tea

9:00-10:45 a.m. "Hidden Places, Where History Lives"
It is hidden places of history, the little known people and places, that hold the key to the real character of the American West. By seeking out the small stories of our past, this documentary film brings to life forgotten historical sites that have a story to tell.

10:45-11:00 Break

11:00-12 Noon "Walking Tour and Site Demonstration of the Solar House and Urban Edible Landscape" — Designed and built by the College of Architecture and University for Man. This project will demonstrate 1) ways that home landscaping plans can produce more food for our daily diet, yet use less energy, water and labor than is typical now, 2) low-cost renewable energy housing sources for space heating and cooling, water heating and waste recycling.

12:00-1:30 p.m. Lunch Break

1:30-2:45 p.m. Restoring and Preserving Keepsake and Historical Clothing and Textiles — College of Home Economics.

2:45-3:15 p.m. Refreshment Break

3:15-4:30 p.m. "The Winter Sky" — Planetarium show of the constellations, planets and other celestial objects in view during the winter months. Mars. The Red Planet. What have recent space probes shown us about Mars? Does it have life? What are those strange markings?

TUESDAY, NOVEMBER 16, 1982

(Will include Concurrent Sessions depending upon the number of participants.)

9:00-10:00 a.m. Dairy Science Tour — Ice cream & Cheese Demonstrations
or
Veterinary Medicine — Tour of facilities and hospital

10:30-12 Noon Tips on House Plant Care and Tour of Greenhouse. Hands on chance to learn propagation, insects treatment and care of your household plants.

12 Noon-1:30 p.m. Lunch Break

1:30-3:00 p.m. Family Life Discussion — Marriage & Family — Counselors from the Family Center will lead participants in an interactive discussion of family problems.
or
How Healthy Are You? Body Fat, Heart rate and Endurance will be monitored and explained by staff in the Health, Physical Education and Recreation Department.

3:00-3:15 Break

3:30 p.m. Biofeedback and Relaxation Demonstration Techniques. Models and Ideas you can use at home or work to relieve tension headaches and stress.
or
Dance Demonstration Workshop
Jazz, Ballet, Modern, Ballroom and Aerobic demonstrations.

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November 15-16, 1982

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Manhattan, Kansas 66506

Kansas Community Education Association

The Joint Meeting of the
Fourth Annual Rural and Small Schools Conference
and
Kansas Community Education Association Conference

November 15-16, 1982

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Kansas State University
K-State Union

General Information

The Center for Rural Education and Small Schools, and Kansas Community Education Association invite you to attend the Joint Meeting of the Fourth Annual Rural and Small Schools Conference and Kansas Community Education Association Conference in the K-State Union on November 15 and 16, 1982.

The Conference will provide a forum for all who share a concern for rural education, small schools and community education. This year's Conference will bring together educators and other community leaders to discuss MOVING FORWARD IN TIMES OF ADVERSITY.

With an emphasis this year on community education as well as rural and small schools, Conference topics will include an extremely wide variety of issues affecting our schools and communities. It will provide an opportunity for teachers and administrators from rural and small schools and community education association members to become better acquainted with each other and to work together to build a better future for learners across the state.

Educators and board members will have a chance to learn about recent developments in rural and community education; to discuss current concerns affecting our schools; to examine the potential consequences of the issues; and to share means of successfully addressing the concerns.

Family members and other individuals who are not interested in the conference agenda may find the Special Interest Program suitable to meet their needs. This program is designed to provide participants with stimulating topics for personal development as well as for community development in rural and small communities.

This is an event for EVERYONE interested in the welfare of rural education, small schools and community education. Educators, board of education members, community leaders, parents and others are cordially invited to participate with national, state and local leaders in helping to impact the future of our schools and communities.

Lodging

A block of rooms in being held until October 31 at the Holidome and at the Ramada Inn in Manhattan for conference participants. Refer to the Conference when making your reservations directly with: Manhattan Holidome, 530 Richards Road, Manhattan, KS 66502, (913) 539-5311 or University Ramada Inn, 17th and Anderson Avenue, (913) 539-7531. Other reservations may be made on a space available basis: Best Western Continental Inn, 100 Bluemont, (913) 776-4711; All Seasons Motel, 1501 Tuttle Creek Boulevard, (913) 539-5391; and Motel Six, 510 Tuttle Creek Boulevard, (913) 776-4033. Please make your reservations early.

Meetings

All meetings, conference meals and exhibits will be held in the K-State Union at the corner of 17th and Anderson Avenue on the campus of Kansas State University.

Registration Fees

The registration fees for the conference are outlined below. A discount is given for those individuals who pre-register on or by November 9, 1982. A discount is also given to those school districts who pre register three or more participants. Meals are not included in the basic registration prices (except in the two-day conference package).

Two-day Conference Package registration (includes all meal sessions) on or before November 9 — $45 per person.
Two day registration on or before November 9 — $35 per person.
Two day registration on or before November 9 for three or more participants from the same school district — $28 per person.
Two day registration after November 9 — $40 per person.
One day registration on or before November 9 — $20 per person.
One day registration after November 9 — $30 per person.

Meals must be purchased separately at the following prices unless registering for the Two-day Conference Package. Attendance at the meal sessions is by pre-registration only. There will not be any on-site registration for meals.

Luncheon, November 15 — $6
Banquet, November 15 — $8
Luncheon, November 16 — $6

The Special Interest program is separate from the conference registration and costs $15 per person. The Special interest registration includes refreshments, handouts, and program activities.

Proceedings

A copy of the Conference Proceedings may be ordered on the registration form for $8 per copy or ordered at the conference for $10 per copy. The proceedings will be mailed to you upon completion.

Limited Workshop Attendance

Please indicate on the registration form your preference of the workshop options. It may be necessary to limit the attendance of some workshop sessions and the sessions may be subject to rescheduling without prior notice.

Special Invitation

Parents, teachers, principals, superintendents, school board members and other community members interested in rural and small school education; spouses interested in personal and community development; university students, teacher educators and other professionals involved with rural and small schools, as well as community educators, advisory council members and others interested in community education are encouraged to attend this conference.

Exhibits

An exhibits room will be in operation for the duration of the Conference. A variety of displays from institutions and commercial representatives will be set up in the K, S and U Ballroom of the K-State Union. All exhibits will specifically focus on rural and small schools and community education.

Refunds

The conference registration fee will be refunded if notification is received before Thursday, November 11, 1982, at 4:00 p.m.

Questions

Please refer any questions regarding the conference to Karen Keller, Conference Coordinator, at (913) 532-5575 in Manhattan or out-of-state or 1-800-432-8222 in Kansas.

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